VOL. XIX NEW YORK—THURSDAY, JULY 9, 1908—CHICAGO No. 2

THE AUTOMOBILE

Rain failed to stop Independence Day Meet at Long Branch

Elkwood Park's Wide Course Showed Up in Magnificent Shape When the Competing Cars Faced the Starter.

HISTORIC old Monmouth county, New Jersey, famous as the birthplace of Moll Pitcher, of the Revolution, and of Arthur Augustus Zimmerman, greatest of all bicycle riders, too, gave to motordom on the Fourth of July a multi-millionaire meet. Crusty old Jupiter Pluvius frowned upon it and stormed upon it, but his cloud bursts could not quench the enthusiasm of the Guggenheims, the Lewisohns, W. E. D. Stokes, and the other plethoric promoters a little bit nor stop for more than a quarter of an hour at a time the racing at the old Elkwood Park mile trotting circuit at Long Branch.

The promotion of the meet was a praiseworthy bit of simon-pure sportsmanship on the part of the automobile enthusiasts of the Jersey coast summer colony. They spent money without stint to insure first-class sport. For a fortnight before the Fourth the track was worked and a week ahead was treated with 9,000 barrels of oil to insure against dust. Liberal purses were put up to attract the best cars and drivers in the metropolitan district, and the response was generous. The grandstand was elaborately decorated with flags and bunting. The visiting racing men and scribes were brought to Long Branch in special parlor cars, lunched elaborately at Pannaci's and sent away full of choice viands and good cheer after a rousing clambake at Pleasure Bay.

The Copper Crœsuses and money magnates were not looking for any profits either for themselves, having in advance promised the surplus proceeds to the local hospital. How much of a surplus the rain allowed is to a considerable extent dependent on the truth of a story that received wide circulation and was vouched for by Tom Moore, who managed the meet, to the effect that the management with characteristic business prudence had insured against one-tenth of an inch of rainfall with the Lloyds, accepting odds of $7,500 to $1,500. There was little doubt at the track that day that one-tenth of an inch had fallen. An hour before the time announced for the start, the heavens twice opened and remained with full water power turned on for a quarter of an hour each time. Then the sun peeped out in a half-hearted, dubious sort of way, yet promisingly enough to jolly several hundred automobiles and several thousand enthusiastic foot, trolley and 'bus passengers to start for the course.

Arrived at Elkwood Park, it really did not look so bad or impossible for racing after all. To be sure, there were little lakes of mud amid slimy stretches of mingled oil and water. A postponement of an hour was announced to permit the track to dry out, and this helped matters considerably. It had been well rolled and soon was in fairly good racing shape, as the times will show.

Elliott Rests His American 10-mile Handicap Winner.

As the afternoon wore on and the weather clerk kept the rain in fairly good check, barring several showers not too heavy to scare an enthusiast, the crowd grew in numbers until the seats on the little grandstand at $2 per were all taken, the tiny bleachers were entirely filled, and several thousand railbirds lined the fence. On the lawns at either side of the stand close to half a hun-

Officials Confer on Postponement After a Heavy Shower.

dred cars were parked at $10 each, scores of automobiles were in the open field near the clubhouse at the head of the stretch, and as many more were drawn up along the fence on the backstretch. Conservatively estimating, there were 300 cars and 5,000 people on hand. With good weather both of these figures would undoubtedly have been doubled. The Jersey coast, be it remarked, is one of the biggest automobiling centers in the country in summer, and its hot-weather colonists are accordingly in an excellent position to command every facility for the holding of an event of this character, even including long-since abandoned horse racing tracks as a venue for a meet.

The races all had good sized fields of really fast cars and the contests were hard and closely fought. It was mean that that cantankerous Jupiter Pluvius had such a grouch on. The management and the sport put up deserved better treatment at his hands.

The outcome, however, was encouraging enough to make it pretty sure that the Fourth of July meet at Elkwood Park will hereafter have a permanent place on the racing calendar.

Two accidents of the bone-breaking variety marred the meet. Both occurred in the 50-mile race. The first one was when an Autocar, driven by C. E. Fisher, and a Stearns, piloted by Arthur Warren, came into collision in rounding the south turn. The Stearns was overturned, throwing out the crew. Warren had his collar bone and three ribs broken, and James Crawford, his mechanic, had his leg so badly crushed that it has to be amputated below the knee. A few minutes later M. R. Guggenheim's Renault, driven by Al. Bellows, lost a tire and dashed through the fence. Henry Myer, the mechanic, evolved with a broken leg. The pitching of a hospital tent in the infield and the conspicuous presence of an ambulance had not been a useless precaution

A five-mile race for stripped cars or stock chassis for a silver cup and a purse of $50 was the curtain raiser. It had for starters a promising quintette, made up of Al. Poole, Isotta; Arthur Warren, Stearns six-cylinder; Ralph De Palma, Allen-Kingston, and Al. Bellows, driving M. R. Guggenheim's Renault. The Allen-Kingston took the lead during the first mile, followed by the American and the Stearns in order. De Palma was never headed. Drawing gradually away, he finally won by a hundred yards from Elliott, who beat Warren the same distance. The fractional times of the winners were: 1 mile, 1:13; 2 miles, 2:16 2-5; 3 miles, 3:19 2-5; 4 miles, 4:23 1-5; 5 miles, 5:25 4-5; Elliott, 5:31 2-5; Warren, 5:38 2-5.

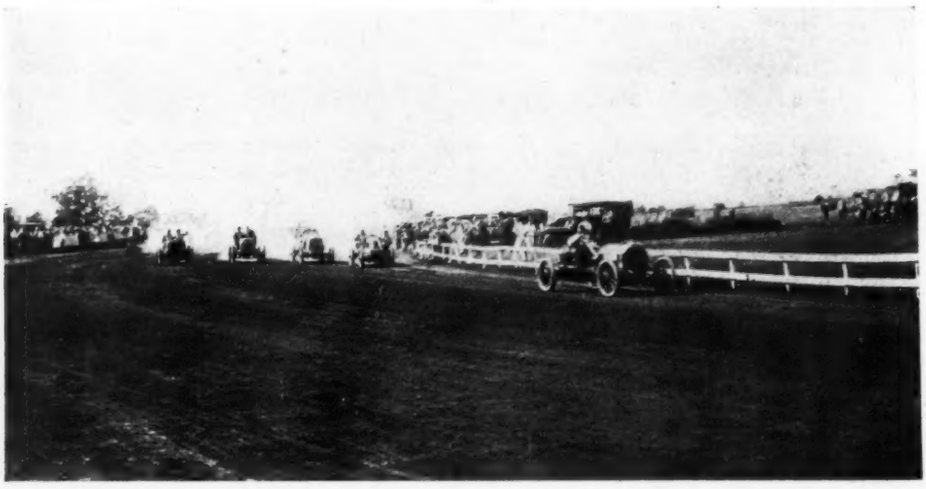
The Isotta was practically left at the post, though starting its motor and later lost its right rear tire and was stopped by Dr. J. R. Overpeck, of Philadelphia, the referee.

Then came the ten-mile race for fully equipped touring cars or runabouts manned by simon-pure amateurs under the A. A. A. rules as follows: W. B. Anderson, 50-horsepower Welch; James Doig, 30-horsepower Stearns; Thomas J. Scully, 30-horsepower Packard, and Stewart Elliott, 50-horsepower American. It was a rattling good race between Elliott and Doig with Scully in warm pursuit and Anderson in fourth place. For two miles less than a hundred feet separated the leaders. Then the big powered American drew gradually away and finally won by 300 yards in 10:53, with the Stearns second in 11:07 2-5, and the Packard third in 11:42 3-5.

Elliott's times by miles were:

1 mile	1:16	6 miles	6:35 2-5
2 "	2:20	7 "	7:38 2-5
3 "	3:24	8 "	8:43 2-5
4 "	4:27 3-5	9 "	9:47 2-5
5 "	5:31 1-5	10 "	10:53

Long-distance races were made prominent features of the card and began with the 50 miles, in which the following lined up: Al. Bellows, Renault; Harry Michener, Lozier; Arthur Warren, Stearns; C. E. Fisher, Autocar; Ralph De Palma, Allen-Kingston; Stewart Elliott, American, and W. B. Anderson, Welch. For the first nine miles there was a rattling good scrap between the American and the Allen-Kingston, with an interesting see-saw struggle also in progress between the pursuing pair, the Lozier and the Renault. Elliott held the lead for five miles and was then passed by De Palma. The American in the tenth mile was stopped by some ignition trouble and lost its place as runner up to the Allen-Kingston, which from here on was never headed, winning in 55:59 3-5, a new record for the track by 6 2-5 seconds. The Lozier was second with 47 miles, and W. B. Anderson's Welch, which was driven by C. Frewin, third, with 44 miles. The



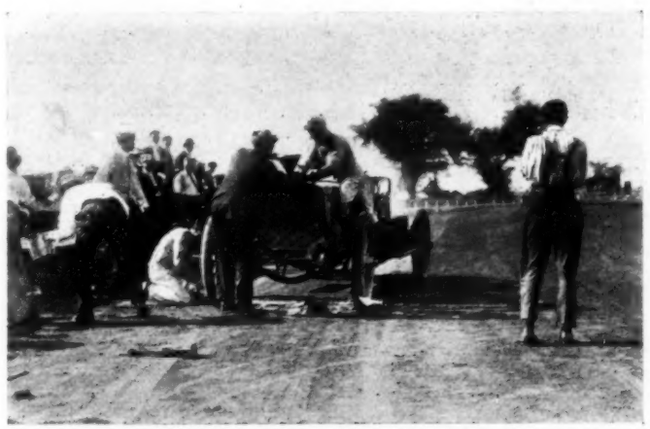
Cars Getting Into Action at the Start of the 5-mile Event.

Autocar, Renault and Stearns had been put out of the running by the accidents recited above. The intermediate times were:

Miles.	Leader.	Time.
5	Elliott	5:49
10	De Palma	11:25
15	De Palma	16:47
20	De Palma	22:00 4-5
25	De Palma	27:46
30	De Palma	33:17 1-5
35	De Palma	39:00 2-5
40	De Palma	44:41 1-5
45	De Palma	50:45
50	De Palma	55:59 3-5

Two drivers essayed to beat the mile track record of 53 seconds put up by the late Emanuel Cedrino, in the Fiat, on the occasion of his racing début in this country in 1903. M. J. Seymour was first away in the Christie, but could do no better on such a soft track—there had been more showers—than :57 1-5. Ralph De Palma in the Allen-Kingston scored 61 2-5 seconds.

A speedy octette of long-distance track performers faced the starter for the 100-mile race, which concluded the racing. They were: Al. Poole, 60-horsepower Isotta; Harry Michener, 45-horsepower Lozier; J. Price, 45-horsepower Acme; Stewart Elliott, 50-horsepower American; Ralph De Palma, 40-horsepower Allen-Kingston; Felix Prossen, 40-horsepower Bianchi; Ed. Von Kathergill, 50-horsepower Pope-Toledo, and I. M. Appercu, 20-40-horsepower Cadillac. The struggle that ensued was a hard-fought battle with varying leadership that kept the interest and enthusiasm of the spectators keyed



Lozier Makes Change of Tire in One Minute.

up from start to finish. It was besides a game all around exhibition of perseverence and pluck on the part of the drivers, for before the race was one-third over the rain again began to fall and made a skating rink of the course. The cars skidded badly at the turns and often swayed from side to side in the stretches. In fact, the going was so bad that there were calls to the referee to declare the race off. Dr. Overpeck, however, refused, pronouncing the course safe for long-distance racing and declaring that the contestants had a right to a run for their entrance fees.

Elliott went away in the lead and held it for ten miles, when De Palma, who had been pursuing him hotly, took it from him. The contest soon split up into a triangular duel of three pairs of cars, the Allen-Kingston and the American fighting for the lead, the Lozier and the Isotta alternating ahead of one another, and the Acme and the Bianchi having a merry scrap further back.

Around the 35th mile Poole stopped for goggles and then began chasing the flying leaders in earnest. Within five miles he had caught and passed De Palma. Elliott had dropped out in the 29th mile. The former bicycle racer, however, would not be shaken off and hung on tooth and nail. Mile after mile the pair wig-wagged in the mud by the cheering stand. Closer and closer the Yankee car crept up on the Italian machine and finally got by it in the 80th mile. Then Poole woke up and cut loose with the Isotta and caught and passed the Allen-Kingston. Both took desperate chances in the mud. But the Savannah and Briar-

Picturesque Finish by the Stearns in 10-mile.

cliff winning brand was too fleet for the Allen-Kingston, well and courageously as it was driven, and, drawing gradually away, finally won by the length of the stretch in 2 hours 10 minutes 36 4-5 seconds. The Allen-Kingston was beaten by but 12 seconds. The Lozier was third with 93 miles, the Bianchi fourth with 88 miles, Acme fifth, 82 miles, Cadillac sixth, 77 miles, Pope-Toledo, seventh, 70 miles. The score was:

Miles.	Leader.	Time.
10	Elliott	10:34 2-5
20	De Palma	23:11 2-5
30	De Palma	36:03
40	Poole	50:06
50	Poole	65:54 3-5
60	Poole	79:54
70	Poole	93:07 2-5
80	De Palma	106:03
90	Poole	118:20 2-5
100	Poole	130:26 4-5

It may be of interest to watchers of the success of the various makes of tires to note that Michelins were first and second in the 100 and first in the 50-mile race. After the races the drivers and scribes were given a clambake at Price's, Pleasure Bay.

ROCKVILLE CLUB HOLDS SUCCESSFUL CLIMB.

ROCKVILLE, CONN., July 2.—The Automobile Club of Rockville is to be congratulated on the success which attended the holding of its first hill-climb. The course measures 7-10-mile and is a stiff grade, which had been prepared by sprinkling with calcium chloride solution. Robinson in the Stevens-Duryea six and Bourgue in the Knox were the stars of the day in the large car class, while the Ford runabout took honors in its class. The Stevens-Duryea's record of :41 flat in the final was not approached, the Knox and Thomas-Detroit times of :50 and :50 1-5, respectively, made in Event 5, coming closest to it, the Knox also doing the hill in :50 flat in Event 6. In the latter, J. W. Swan in the Corbin was a good third in :50 2-5, a Stevens-Duryea taking this event in :43 1-5.

Where the Guggenheim Renault Turned Itself Over.

WILDWOOD AUTOISTS CELEBRATE THE FOURTH

WILDWOOD-BY-THE-SEA, N. J., July 6.—A battle royal between the Chadwick and the Fiat was the feature of Saturday afternoon's sprints over the famous Central avenue mile straightaway speedway, and the result proved a hard-earned victory for the foreigner, its 120 horsepower proving too much of a handicap for the 50 horsepower of the Pennsylvania designed car. Paul Schill and Willie Haupt were the drivers, and each exerted every ounce of strength and technical wisdom to land his car in the lead. Under the circumstances the result is a practical triumph for Haupt and the Chadwick, for, despite the disparity in power, each of the three trials of the latter in the official time trials was slower by but 2-5 of a second than those of his 40 per cent. more powerful rival. The Fiat's times were :45 2-5, :44 3-5 and :42 3-5, while the Chadwick's trials were made in :45 4-5, :43 4-5 and :43 2-5. The Fiat's best time not alone broke the best previous gasoline figures—Monte Robert's :44 flat—but was also two-fifths of a second under the course record of :43 flat made last Labor Day by Bert Holland in a Stanley steamer. Haupt twice succeeded in besting the 1907 gasoline record, while Schill was also able to do the trick but once. The Fiat's average for its three official time trial trips was :44 3-15, as against the Chadwick's :44 5-15. Haupt claims that he can beat :42 flat over the course, and would have done so had not some gravel found its way into his gearcase and interfered with the prompt shifting of his gears.

There was something of a mix-up in the $2,001 to $3,000 class when Frank Lescault, driver of the P. & S. car, protested all the other cars in the event for the reason that they were not equipped with fenders, as per catalogue—the program calling for catalogue equipment. After a consultation the officials refused to entertain his protest, whereupon Lescault left the course, withdrawing his car from all the other events in which it was entered and departing immediately for New York. It later developed that the P. & S. had made faster time than any of its competitors in the event, and as the prize was "up in the air," the event was run again as a special, when W. Mullen's Thomas "Forty" bested the Pennsylvania "Thirty" and the Apperson "24-30" with a mile in 1:02 flat.

Besides the Fiat-Chadwick duel, the time trials were rendered interesting by the excellent performances of the Chalmers-Detroit, which covered the course in :51 2-5; of the Apperson, driven by "Charlie" Swain, ex-president of the Quaker City Motor Club, who, despite the fact that he was the only "pure" driver in the official time trials, took his car to the wire in :52 2-5; and of the Parkin "40," a comparative newcomer, which went two trips in :55 3-5 and :53 respectively, with young "Joe" Parkin, son of the builder, at the wheel. Eddie Wilkie, with his 18-horsepower Buick, negotiated the course in 1:13 3-5, equaling the time made in the trials by the Cleveland "40." Wilkie had previously captured the under $1,250 class for gasoline with the same car in 1:28 1-5, excelling the time of the winning Mitchell in the $1,251 to $2,000 class by nearly five seconds.

Mullen and Magraw, in Thomas "40's," and W. Sprankle in a "45" Premier, battled for the honors in the $3,001 to $4,000 class; the Thomases finished one-two, Mullen winning in 1:04 2-5.

Schill and the monster Fiat easily registered in the four-cylinder over $4,000 class, with a mile in :53 1-5, "Charlie" Swain being unable to do better than 1:01 2-5, owing to a cylinder missing. Had he done as well as he did later in the time trials, :52 2-5, he would have had the satisfaction of collaring a cup from Schill. The latter also easily annexed the free-for-all, Haupt being unable to get his Chadwick to the tape owing to ignition trouble. Schill for the first time let the Fiat out, getting under the :50 mark. His time was :49 4-5, and Joe Parkin, who finished second, could do no better than :58 4-5.

The course was in excellent shape and was kept clear at all times with the assistance of the Ninth Philadelphia Boys' Brigade, under Clement M. Devine. An early morning rain, which promised to spoil the sport, had the effect of packing down the surface and laying the dust. The summary:

GASOLINE CARS, UNDER $1,250.

1.	Buick	18	Eddie Wilkie	1:28 1-5
2.	Mitchell	20	W. M. Cram	1:28 2-5

GASOLINE CARS, $1,251 TO $2,000.

1.	Mitchell	35	W. M. Cram	1:33
2.	Overland	24	W. H. Ford	1:35 4-5

GASOLINE CARS, $2,000 TO $3,000.

1.	Palmer & Singer	45	Frank Lescault	1:13 1-5
2.	Pennsylvania	30	Len Zengle	
3.	Apperson	24-30	George L. Davis	

GASOLINE CARS, $3,001 TO $4,000.

1.	Thomas	40	W. Mullen	1:04 2-5
2.	Thomas	40	W. Magraw	
3.	Premier	45	W. J. Sprankle	

FOUR-CYLINDER CARS OVER $4,000.

1.	Fiat	120	Paul Schill	:53 1-5
2.	Apperson	48	Charles J. Swain	1:01 2-5
3.	Stearns	50	H. Goodin	

SIX-CYLINDER GASOLINE CARS.

1.	Chadwick	80	F. J. Nordell	1:00
2.	Parkin	40	J. W. Parkin, Jr.	1:00 1-5

FREE-FOR-ALL.

1.	Fiat	120	Paul Schill	:49 4-5
2.	Parkin	40	J. W. Parkin, Jr.	:58 4-5
3.	Chalmers-Detroit	40	W. J. Brown	

SPECIAL FOR GASOLINE CARS, $2,000 TO $3,000.

1.	Thomas	40	W. Mullen	1:02
2.	Pennsylvania	30	Len Zengle	
3.	Apperson	24-30	Geo. E. Davis	

TIME TRIALS, OPEN TO ALL CARS.

1.	Fiat	120	Paul Schill	:44 3-5 :45 2-5 :42 3-5
2.	Chadwick	50	Willie Haupt	:45 4-5 :43 4-5 :43 2-5
3.	Chalmers-Detroit	40	W. J. Brown	:51 2-5
4.	Apperson	48	C. J. Swain	:52 2-5
5.	Parkin	40	J. W. Parkin, Jr.	:55 3-5 :53
6.	Thomas	40	W. Magraw	1:01 1-5
7.	Apperson	24-30	Geo. E. Davis	1:06 3-5
8.	Buick	18	E. Wilkie	1:13 3-5
9.	Cleveland	40	W. A. Wood	1:13 3-5

The carnival wound up Saturday night with the presentation of medals and prizes at the big band stand on the boardwalk. Paul Schill, besides his other prizes, was given a handsome gold medal for driving the car that lowered the course record.

Friday's reliability run from Philadelphia was marred somewhat by the combined antics of J. Pluvius and the constables at Magnolia. The former, however, acted quite decently as compared with the latter. He let up now and then; the constables never. About forty cars left the Jersey side of the Delaware for this place. At Magnolia, about six miles from the start, a pair of constables were "on the job." Each driver was asked to show his license card and certificate, and the unlucky wight who had neglected to provide himself with credentials was compelled to turn his car around and go home. In this way over a dozen cars were eliminated from the run, and their occupants were naturally furious. So were the hotel keepers here when they heard of the hold-up. But 24 cars arrived at the finish, and of these 14 were adjudged by the officials as clean-scorers. The handsome cup hung up by the Wildwood Club was drawn for and won by J. M. Hendricks, owner of a Chadwick.

After the run on Friday night all the cars were hurriedly cleaned up and, with the addition of quite a number of cars of visitors and residents, were placed on exhibition on the boardwalk. The display was very creditable both as regards number and quality, the cars extending along the esplanade for quite a distance. Attendants were stationed at most of the cars, and the novelty of a one-night outdoor automobile show was voted a huge success by the thousands of holiday visitors.

The parade on the morning of the 4th was a huge success.

Germany Triumphant in Grand Prix

HOW THE DRIVERS FINISHED IN THEIR LONG RACE ON THE DIEPPE CIRCUIT.

Pos.	Car.	Nation.	Driver.	Time. H. M. S.
1.	MERCEDES	Germany	Lautenschlager	6 55 43
2.	BENZ	Germany	Hemery	7 04 24
3.	BENZ	Germany	Hanriot	7 05 13
4.	BAYARD-CLEMENT	France	Rigal	7 30 36
5.	MERCEDES	Germany	Poegge	7 32 31
6.	OPEL	Germany	Joerns	7 39 40
7.	BENZ	Germany	Erle	7 43 21
8.	RENAULT	France	Dimitriewitch	7 52 12
9.	PANHARD	France	Heath	7 55 36
10.	GERMAIN	Belgium	Perpere	7 59 08
11.	ITALA	Italy	Cagno	8 07 56
12.	BAYARD-CLEMENT	France	Gabriel	8 11 44
13.	MOTOBLOC	France	Courtade	8 12 43
14.	MOTOBLOC	France	Gerest	8 19 56
15.	RENAULT	France	Callois	8 19 57
16.	MORS	France	Jenatzy	8 24 44
17.	MORS	France	Jarrott	8 39 20
18.	AUSTIN	England	Brabazan	8 42 50
19.	AUSTIN	England	Resta	8 46 50
20.	ITALA	Italy	Fournier	8 47 20
21.	OPEL	Germany	Opel	9 08 11
22.	GERMAIN	Belgium	Degrais	9 13 34
23.	PANHARD	France	Farman	9 24 40

DIEPPE, July 6.—All the high honors in the Grand Prix, which was run over the Dieppe course to-day, fell to Germany. Her triumph was as complete as was ever attained by a nation in this classic international contest. Her cars finished one, two, three. It was a bitter day for French and Italian makers, who in the past years have pretty well monopolized Grand Prix honors. Frenchmen, however, were at the wheels of the second and third cars.

Lautenschlager, driving a Mercedes, won. He covered the 478.1-mile course in 6 h. 55 m. 43 s., an average of 111.5 kilometers, or 69.24 miles per hour.

Hemery, a Frenchman, and former Vanderbilt Cup winner, was second in a Benz, a German car, in 7 h. 4 m. 24 s.

Hanriot, another Frenchman, also driving a Benz, was third, in 7 h. 5 m. and 13 s., less than a minute behind Hemery.

Louis Strang, before the start, drove up to the enclosure with the transmission and reversing gear of the Thomas, the only American car competing, so jammed as to kill all chance this stock car had before the race was even started. Strang and his mechanic managed to mend matters a bit, but was forced to start with the first and second speed and the reversing gear out of commission. Despite this, he completed the first round of 47.8 miles in 53 m. 44 s., and, after more repairs, resumed the race. He made the second lap in 63:43, the third in 56:47, and the fourth in 58:01. This was as far as he got. He said he had tire troubles every round, and that finally one cylinder was put entirely out of commission.

The killing of two men was the one cloud on the success of the race. As Cissac was on the final round with a Panhard, a tire was torn off, resulting in the car upsetting and crushing to death its driver and his mechanic, Schaub.

Another serious accident was the upsetting of a Weigel in rounding a turn near Eu. Harrison, its driver, was thrown out and carried to a hospital tent, badly injured.

A feature of the race was the pluck displayed by Hemery in continuing the contest after a flying stone had driven a piece of glass from his goggles into his eye. The game Frenchman drove up to the stand, stopped only long enough for a physician to inject cocaine in the injured member, and then went on without losing his place as runner up.

The pace at the start was very fast. Salzer, driving a Mercedes, made the first round in 36 m. 31 s., or at the rate of 126.5 kilometers an hour. This was the fastest lap in the race, and beat the 38 m. 16 s. made my Nazarro last year. In fact, six drivers beat the Fiat crack's record in the first round. The winner's time at the end, however, was 9 minutes slower than Nazzaro's winning time in 1907.

Lautenschlager took the lead in the seventh round by steady driving, and after that was never headed. After five rounds had been completed, the three German cars had attained the positions in which they finally finished. After the Mercedes champion had wrested the lead from Nazarro, the Fiat crack dropped back into the ruck. His downfall was due to a jammed clutch. Nazarro had fought his way to the fore in the second round.

The French fought fiercely to avoid defeat. Szisz, the Renault crack, fell back, and then Duray, the blonde Lorraine pilot, dropped behind. This left the brunt of the fight to Théry, the champion of the Gordon-Bennett days. He, too, was finally passed in the fourth round by his compatriots, Hemery and Hanriot, at the wheels of German cars. Tire trouble was at the bottom of his fall.

The Frenchmen, though bitterly disappointed at the outcome, took their medicine with admirable sportsmanship. Lautenschlager was loudly cheered as he was escorted to the presidential box, where he was congratulated by M. Maujan, minister of the interior, while the band played "Wacht am Rhein." Baron von Zuylen, president of the Automobile Club of France, telegraphed Emperor William, announcing the success of the German cars.

The result of the race was a repetition of the Michelin success of the voiturette race the day before, the entire trio of German cars, which finished in the lead, being equipped with Michelin tires.

A. A. A. DELEGATES ARE DENIED ADMISSION AT DIEPPE

ACCORDING to press cables, the allied European clubs, which met at Dieppe on Monday, denied the national body of the United States admission, a personal hearing and voted to recognize the Automobile Club of America as their sole representative in this country. William K. Vanderbilt, Jr., and A. G. Batchelder, the accredited representatives of the American Automobile Association, were not allowed to be present. Count Sierstopff, president of the German Automobile Club, is reported to have made a statement on their behalf setting forth as best he could from hearsay the conditions existing in this country. There was no opportunity afforded Messrs. Vanderbilt and Batchelder to reply to any statements Dave Hennen Morris, George Heath, and W. S. Hogan, the club delegates, might make.

Count Sierstopff is said to have pointed out that the A. A. A. was the larger and more powerful organization and that the Vanderbilt commission had never been notified of any agreement made by its correspondents in the matter of the Ostend rules. As a matter of fact, the New York club's foreign representatives, then acting as A. A. A. correspondents, never attended the Ostend meeting and so could not have bound the A. A. A. to the revised rules had they had any such authority.

The shutting out of the A. A. A. delegates and the refusal to grant the national body in the United States a hearing was the outcome of a protest filed by the national clubs of Great Britain and Germany prior to the meeting.

The cables say the discussion was a warm one and resulted in the recognition of the New York club as the only organization in this country that could hold membership in the International Association of Recognized Automobile Clubs. The position taken was that only one organization could be recognized in any one country and that the choice should fall on the one that had incorporated the Ostend conditions in its rules.

A clever grandstand play was made by the New York club in Judge Gary securing from President Roosevelt, our nation's good-natured chief, a message of good will for transmission to Baron Zuylen von Neyvelt, the president of the association. The color this message lent to the pretensions of the New York club to being a national body can well be imagined.

The outcome will draw the line between the A. A. A.'s contest and the New York club's races still more sharply. The Vanderbilt will have its Americanism intensified and the Savannah will be more than ever emphasized as a special event kindly promoted in this country for European cars under European rules by their very good friends of the New York club.

FRENCH VOITURETTES ARE VICTORIOUS.

DIEPPE, July 6.—France prevailed signally in the race to-day for voiturettes over the Dieppe course, which scored as a curtain raiser to the Grand Prix of to-morrow. The first five cars to finish were of French make.

A double cylinder Delage, driven by Guyot, won, his time being 5 h. 45 m. 30 s., an average of 50 1-3 miles per hour. A single cylinder Sizaire et Naudin, piloted by M. Naudin, was second in 5 h. 52 m. 6 s. Leon-Peugeot single-cylinder cars, driven respectively by Goux and Dugernoy, finished third and fourth, the first being four minutes behind Naudin. Thomas, driving a Delage, captured fifth place. All were fitted with Michelin tires.

There were 62 entries and 47 starters, of whom 32 finished, including 8 complete teams. There were 40 French, 3 Italian, and 3 Swiss cars in the race.

The attendance was conspicuously small at the start—less than one thousand were seated on the monster grandstand. The course was in bad shape and was further cut up by the racers, so that to-morrow's Grand Prix contestants will probably have rough going with the likelihood of much tire trouble.

There were a few accidents, none, however, of a serious character. A Truffault, driven by DeMeester, struck a bridge at Eu. A Guillenim, piloted by Bordes, overturned at Maux. Anaries, with St. Marc in the seat, broke a wheel. None of the drivers were badly injured in any of the spills.

ZEPPELIN AIRSHIP PROVES DISAPPOINTING.

FRIEDRICHSHAFEN, GERMANY, June 30.—Count Zeppelin's monster airship has sorely disappointed its backers. After considerable delay, caused by mechanical defects discovered at the last moment, the airship made preliminary flights over Lake Constance, but altogether failed to live up to expectations.

The driving fans, operated by two 126-horsepower motors, appeared to be no larger than those of the earlier No. 3, and were manifestly unable to drive the balloon at anything like the speed required. There was also a lack of buoyancy.

It is declared on good authority that the German Government officials who have been backing Count Zeppelin are bitterly disappointed at the failure of the airship, and that as the result of non-success support is likely to be withdrawn.

OVAL TRACK FOR WINNIPEG.

WINNIPEG, MAN., July 2.—A movement is afoot to construct a 158-mile road for automobilists near Winnipeg. It will be oval in form, and the expense of the construction and maintenance will be met from the tolls collected from those who use it. It is proposed to run some big races on the road, which will be oiled to keep down the dust. Eastern Canada has already taken kindly to oiled roads. This is demontrated in Montreal, where the practice of oiling the roads is being freely adopted.

RACES AT FAMOUS PIMLICO TRACK WERE EXCITING

BALTIMORE, July 6.—Robert Morton, who drove the 40-horsepower Pullman car entered by the York Motor Car Company, of York, Pa., was the real hero in the third automobile races held at Pimlico, on the Fourth of July, under the auspices of the Motor Car Racing Association of Maryland. Of the four events in which this Pullman car was entered, Morton captured three firsts and was third in the other. He defeated E. L. Leinbach, the "Daring Dutchman," in the five-mile stock touring event, his time in this race being 6:06. Leinbach drove in this event a 35-horsepower Moon car, entered by William C. Blome, of Baltimore. Morton was also first in the ten-mile free-for-all handicap and in the 50-mile championship, open to stripped stock chassis of 45-horsepower or less.

Morton in Pullman Winning 10-mile Handicap.

Leinbach was a close second in the distribution of honors. With his 60-horsepower Stearns car, he won the ten-mile Maryland runabout championship, for stock touring runabouts or tourabouts, and was third in the ten-mile handicap, the only two events in which this car was entered. He only lost the handicap race to Morton and Roy Stains, who also drove a Pullman car, of 30-horsepower, because of the handicap he gave these cars. Morton had 35 seconds and Stains 50 seconds. Morton's time, including the handicap, was 10:36, while Stains's time was 10:47. Leinbach made the distance in 10:52 from scratch. This race was the center of interest and while Leinbach crossed the line third he made the best time. One of his miles was made in 1:03 3-5, while his average for the ten miles was 1:05 1-5.

The 50-mile championship proved a dual event—two races in one. The two Pullman cars, driven by Morton and Stains, were neck and neck in the lead until Stains's car, near the approach of the 28th mile, went wrong. In the meantime the two Autocars, driven by John Archfield and J. F. Brown, had an interesting race all to themselves further back. Morton won the event and Archfield came second, with A. W. Behrens, in a 28-horsepower Maryland car, third.

The opening event, a five-mile race for baby runabouts, was won by Robert F. Kaehler, in a 15-horsepower Ford. The only accident occurred in the motorcycle event when Chic Thomas went through the fence. W. E. Mangold won this event.

The crowd was disappointed by the non-appearance of the entries of Louis J. Bergdoll, of Philadelphia, the millionaire driver, who was scheduled to meet Leinbach in a 25-mile match race. The failure of the cars to be at the track will result in Starter Wagner reporting them to the racing board, which may result in suspension. The cars of J. L. B. Wilhide, of Baltimore, and Thomas and Tolman of Washington, will also be reported.

Starter Wagner would not allow the 40-horsepower Thomas, entered by Wallace Hood, of Washington, to start in the Maryland runabout championship because of an extra tank being on the car. Hood was also entered in the 50-mile race, but had trouble with his cylinder, which he could not put in shape.

H. M. Rowe was referee. The judges were Osborne I. Yellott, W. S. Belding and James S. Reese; starter and clerk of the course, Fred J. Wagner; assistant starter, Edgar F. Dobson; announcer, Howard A. French; scorers, E. C. Briggeman, L. W. Tremblay and R. Milton Norris; timers, C. Howard Millikin, Harry F. Fisher and C. Ross Klosterman. The summaries:

FIVE MILES—BABY RUNABOUT CLASS; OPEN TO RUNABOUTS COSTING $1,250 AND UNDER.

1.	Ford	15	R. F. Kaehler	6:59	
2.	Cameron	16	Jefferson Davis	7:13	
3.	Overland	20	Geo. E. Norwood	....	

TEN MILES—MARYLAND RUNABOUT CHAMPIONSHIP; OPEN TO STOCK TOURING RUNABOUTS OR TOURABOUTS.

1.	Stearns	60	E. L. Leinbach	11:04	2-5
2.	Pullman	30	Roy Stains	11:33	
3.	Pullman	40	Robert Morton	11:39	
4.	Autocar	30	J. F. Brown	.....	
5.	Autocar	30	E. H. Freas	.....	
6.	Autocar	40	Chester Smith	.....	

FIVE MILES—OPEN TO STOCK TOURING CARS OF 24.1 TO 40-HORSEPOWER, INCLUSIVE.

1.	Pullman	40	Robert Morton	6:06	
2.	Moon	35	E. L. Leinbach	6:56	3-5

TEN MILES—PIMLICO FREE-FOR-ALL HANDICAP

1.	Pullman	40	Robert Morton	27:08	
2.	Pullman	30	Roy Stains (60)	10:47	
3.	Stearns	60	E. L. Leinbach (Scratch)	10:52	
			Also Started.		
	Maryland	28	A. Behrens (1:10)	.....	
	Jackson	40	C. Smith (:55)	.....	
	Autocar	30	E. H. Freas (:55)	.....	
	Autocar	30	J. E. Brown (:50)	.....	
	Thomas	40	W. C. Hood (:10)	.....	

FIVE-MILE MOTORCYCLE CHAMPIONSHIP PISTON DISPLACEMENT HANDICAP.

1.	Indian	3 1-2	M. E. Mangold (20)	5:49	
2.	Indian	3 1-2	Chic Thomas (20)	5:55	
3.	Indian	3 1-2	W. S. Fisher (30)	.....	

FIFTY-MILE CHAMPIONSHIP—OPEN TO STRIPPED STOCK CARS OR STOCK CHASSIS OF 45-H.P. AND UNDER.

1.	Pullman	40	Robert Morton	57:08	
2.	Autocar	30	John Archfield	62:22	
3.	Maryland	28	A. W. Behrens	66:18	
4.	Autocar	30	J. F. Brown	66:47	
5.	Pullman	30	Roy Stains	.....	

Start of Runabout Championship That Stearns Won.

TIME OF WINNER BY MILES.

Miles.	Time.
5	5:47
10	11:20
15	16:55
20	22:30 2-5
25	28:02
30	33:35
35	39:17
40	45:07
45	51:02
50	57:08

F. A. M. MEET BRINGS OUT NEW MILE RECORD

NEW YORK, July 6.—For the past three days the Federation of American Motorcyclists has had possession of the town. Friday, July 3, was set as the day for the opening of the annual reunion, which took the form of a business meeting and election held at Terrace Garden. The officers who will serve for the ensuing year are: president, Earle L. Ovington, New York; vice-president, eastern district, E. L. Buffington, Providence, R. I.; vice-president, southern district, E. Y. White, San Antonio, Tex.; vice-president, western district, John R. Ball, Milwaukee; vice-president, Pacific Coast district, R. K. Holmes, Los Angeles, Cal.; treasurer, E. B. Gibson, Westboro, Mass.; secretary, H. J. Wehman, New York.

On the following day, the members and their friends, several thousand strong, gathered at the new Clifton Stadium in Paterson, N. J., for the annual race meet which proved to be a highly exciting event. The star performer of the day was J. H. DeRosier, of Springfield, Mass., who lowered the world's motorcycle mile track record of :56 2-5 seconds, made by C. Hoyt of Cambridge, Mass., in 1905, to :56 flat. DeRosier, mounted on a 5-horsepower, twin-cylinder Indian machine, made his first appearance in the 10-mile race for professionals, limited to machines not exceeding 61 cubic inches piston displacement. He got away easily and led the bunch for the entire distance, his machine making lap after lap of the steep-banked track with that steady purr that indicates perfection of running. He made the distance in 11 minutes, 59 seconds, J. King of Newark, N. J., coming in second shortly after.

The next event on the program was DeRosier's mile exhibition against time, and was made from a flying start. His terrific speed of considerably better than a mile a minute was appalling on the small saucer-like track, which has six laps to the mile, the impression received by the spectators being that of a flying human ball from which flames and smoke leaped in a steady stream, as the motor was kept opened to such an extent, even on the curves, that the exhaust was nothing but an uninterrupted roar right from the start to the finish.

The comparison made by the next event on the program, which was a half-mile race for tricycles, brought a laugh from the spectators, owing to their snail-like pace. The best time was made by F. W. Jones of Passaic, who led Oscar Goerke of Brooklyn, over the tape by a tire in :57 4-5. In the five-mile pursuit race limited to machines not exceeding 61 cubic inches piston displacement, Charles Davidson, of Springfield, Mass., on a 5-horsepower Indian, overtook Fred Huyck, of Chicago, at the two-mile mark. Preliminary heats in the three-mile pursuit race were cut to a mile, and the two left to contest in the final three-mile trial were Walter Goerke, of Brooklyn, and Charles Gustaveson, of Springfield, Mass. Goerke caught his opponent at exactly the three-mile mark, his time for the distance being 3 minutes, 17 seconds. This event was limited to machines not exceeding 30.50 cubic inches piston displacement. There were two or three bicycle races on the program as well.

The closing event of the annual meet took the form of an 1,100-mile tour from New York to Chicago, 20 contestants leaving the Hotel Empire at Sixty-third street and Broadway Monday morning last. Between six and seven o'clock the same evening, 16 of them had checked in at the Ten Eyck, at Albany, 153 miles, to I. F. Alofsin, who is the tourmaster. The remainder were stretched along the road between Pougheepsie and Albany, their delays being chiefly due to tire troubles. Tuesday's installment consisted of a run of 98 miles to Utica, N. Y., the difference in the distance of the two days being accounted for by the fact that part of the day's run will consist of a hill-climb at Tribes' Hill. This is between Amsterdam and Fonda and is believed to be the worst rise on the entire run to Chicago. Chairman Alofsin has charge of the climb, assisted by E. A. Githens and P. S. Harte. All the riders who arrived at Albany the night before in time to check in got to the hill in good season, with the exception of De Salvo on an Armac, who was penalized 3 1-2 points for being late at Amsterdam. He was also unfortunate on the hill, as he was compelled to dismount about half way up, and in this manner lost another 5 points. With this single exception the much dreaded hill proved to be a tame affair, every one of the machines getting up it without the slightest hitch. Nor have any of the others suffered from road penalizations, although the going has not been quite as good as the first day. The difference in the distance may account for this, and doubtless some of the riders will meet with misfortunes between Utica and Buffalo. Since it was last reported at Poughkeepsie at 5:30 P. M. Monday, the light team of three machines has not been heard of, and it seems quite probable they were unable to continue further, owing to an accident of some kind.

One of the features of the first day's run to Albany was the welcome of the Hudson Valley Automobile Club, at Poughkeepsie, who warned the motorcyclists of speed traps and torn-up roads between that city and Hudson and set them on the right way, furnishing complete directions for finding the good state roads in Dutchess and Columbia counties. The run was marked by but one accident, which happened to Arthur Lyon, of Chicago, who killed a dog while coming up Green street, Albany. Lyon got a severe jolt but was not thrown from his seat or injured in any way. The roads and weather have been ideal and reports received from points further west indicate that favorable conditions are to be looked for as far as Buffalo at any rate. The riders, or at least those of them who manage to survive the gruelling test, expect to arrive in Chicago July 16.

Some of the Huge Crowd That Gathered at Clifton.

Start of One of the Motorcycle Teams for Chicago.

THE STORAGE BATTERY IN AUTOMOBILE WORK

By BRUCE FORD, Member Society of Automobile Engineers.

THE history of the storage battery dates from the year 1860, when a Frenchman named Gaston Planté immersed two pieces of sheet lead in dilute sulphuric acid without touching each other and passed a current from an external source through them; one of these plates became oxidized, and upon reversal of the current the oxidized plate became reduced and the other plate became oxidized. He discovered that upon breaking the circuit the lead plates had become charged and would act like a primary battery in giving current, the oxidized plate being the positive and the reduced plate the negative pole. He further discovered that by reversing the current several times the capacity of the cell was considerably increased by reason of the fact that the layer of oxide would become thicker upon each reversal, and that this oxide becoming reduced would give a layer of spongy lead, thereby increasing the capacity of both the positive and the negative plate. In 1880 another Frenchman named Camille Faure and an American named Charles F. Brush, almost simultaneously brought out plates in which the chemical actions employed were the same, but instead of forming the layer of oxide from the metallic body of the plates by the reversals of current, the oxide was mechanically applied to frames of lead or lead alloy. By this process the same, or greater capacity, could be obtained from plates of less weight.

Plates of the former type, although very much modified in design over those of Planté, are to-day extensively used in stationary work, and to some extent in portable work. They are also used to a very limited extent in automobile work; but the plate almost universally used in this class of service is of the Faure or Brush type, and this paper will be devoted to this type alone. The earliest commercial application of the storage battery for automobile propulsion was made with the chloride accumulator, a battery of modified Planté type, and in 1899 its makers, foreseeing the need of a lighter and more compact type of battery, started to develop one of the Faure or Brush type. The result was the battery since known as the "Exide." The makers have kept in close touch with the requirements of service, and not only have the positive and the negative plates been modified from time to time, but the jars and accessories and methods of mounting and connecting the cells have been improved just as the vehicle itself has been improved, as the requirements have become better understood.

The storage battery finds itself used in various ways in an automobile. In the electric machine it is the entire source of the energy used for propulsion. In the gasoline-driven machine it makes a convenient and reliable source of ignition. These two form by far the largest uses, although, in the case of the combination gasoline-electric machine the storage battery is useful as a reservoir of power to be called upon in emergency conditions, enabling the power plant to be of size more in proportion to the average rather than to the maximum demand. In this system the storage battery is also very useful in starting the engine. The storage battery is also used to some extent for lighting automobiles, and in some cases the ignition battery of a gasoline machine is made of specially high capacity, so that it can be used for front and rear lights in addition to its function of furnishing current for the spark.

Batteries for Pleasure and Business Service.

As used for propulsion, the battery can be divided into two classes: those used for pleasure vehicles, and those used for commercial delivery wagons and trucks. The type of battery is, in general, the same. In commercial service, however, the batteries run to much larger sizes and, in consequence of this as well as the less resilient spring and tire action, they are of necessity assembled in a more heavy and substantial manner. Propulsion batteries consist of the following elementary parts: positive plates, negative plates, separators, straps, jars, covers, connectors and crates for containing the assembly of cells.

The Exide plate consists of a grid of special elastic lead alloy filled with a paste of lead oxide. In design the positive and negative plates are similar, the positive grid, however, being thicker and heavier than that for the negative plate. The standard grids are 7-32 inch and 3-16 inch thick respectively. The grid consists of a frame around the outside of the plate, having vertical bars throughout the body of the plate spaced about 3-4 inch apart and which extend from its top to its bottom edge. There are horizontal rods of very small cross section flush with the surface of the grid and spaced about 1-4 inch apart on each side of the plate; the rods on one face of the plate are not placed opposite those on the other face but midway between them, or in staggered relation. It is thus seen that the body of the grid contains open spaces about 3-4 inch wide, which extend from the top frame to the bottom frame and are enclosed by the horizontal facial rods; these open spaces are filled with the lead oxide paste, which, when in position, sets like cement in the form of a pencil about 3-4 inch wide, held in its position between the vertical bars and between the facial horizontal rods. The plates, after being pasted and the paste allowed to set, are given an electro-chemical formation, during which the paste or active material of the thicker plates becomes peroxidized, making them positive plates, while the active material of the thinner plates becomes reduced to porous, spongy metallic lead, making them negative plates. Each grid is supplied with a projection or lug at or near one of its upper corners.

The plates are made of different sizes, but the two sizes most used are the *MV*, 8 5-8 inches high by 5 3-4 inches wide, and the *PV*, 8 5-8 inches high by 4 3-4 inches wide. The *MV* is rated at seven ampères per positive plate for four hours, and the *PV* at six ampères for four hours; a sufficient number of plates is assembled in each cell to give the required capacity, and a sufficient number of cells are connected in series to give the required voltage. Each cell consists of a rubber jar, an element and electrolyte. The rubber jar consists of a deep rectangular box of hard rubber, with walls 1-8 inch thick, more or less, according to the size and service. In the bottom of the jar, and made integral with it, are bridges or ribs of height consistent with the service and whose function it is to support the weight of the element and to provide space into which is deposited the sediment thrown off by the plates with wear.

Construction of the Elements.

The element consists of positive and negative plates burned to straps and kept apart by separators interposed between the positive and negative plates. In assembling an element, a negative plate is laid down with a separator on it, then a positive plate, separator, negative plate, and so on. The plates are so placed that all the lugs of the positive plates are on one side and all the lugs of the negative plates are on the other side. A strap, consisting of a flat strip of lead or lead alloy having rectangular openings in it of the same dimensions as the cross-section of the lug of the plates, these openings being spaced to register with the lugs, is then placed over the plate lugs of the positive plates, and a similar strap is placed over the lugs of the negative plates. The lugs are then burned into integral union with the straps. In pleasure vehicle service it is customary to make the plate lugs comparatively short, so that the straps are somewhat below the top of the jar, and a cover consisting of a rectangular piece of hard rubber is placed on top of the straps which are furnished with projections extending through holes in the cover and by which the cells are connected by burned joints. In commercial service the batteries are usually assembled with top straps, and the plate lugs extend above the top of the jar, the strap having

two rows of holes in it, one row being placed over the corresponding row of plate lugs of one cell, and the other row of holes being placed over the plate lugs of opposite polarity in the adjoining cell, and the cell is completed by burning the lugs to the straps, which, in this case, themselves make the connection from cell to cell.

Wood Separators Are Most Efficient.

The separator, which has proved by experience to be the most successful, consists of a piece of wood veneer with parallel grooves about 1-4-inch wide, spaced close together and plowed out of one side, the plain sides being placed directly against the face of the negative plates. A thin sheet of perforated hard rubber is placed against the grooved side of the wood and rests against the face of the positive plate; this perforated rubber performs a double function, in that it protects the wood from the oxidizing action of the positive active material and also tends to restrain the wearing action of the wash of the acid on the active material of the positive plate. The grooves of the wood separator are arranged vertically, and there is thus a number of free channels for circulation of the acid and for the escaping gases liberated during the action of the battery, especially toward the completion of charge. The wood of which the separators are made is given a chemical treatment to remove substances contained in natural wood which would otherwise do great damage to the plates; this is of the greatest importance, as the success of the wood separator depends upon the proper method of treatment, and the thoroughness with which the treatment is applied. An improperly treated wood separator is a menace to the life of the plates.

The cells are filled with electrolyte, which consists of a mixture of pure sulphuric acid and pure water, with a specific gravity of about 1.210. After the battery is fully charged the specific gravity reads about 1.280; the reason for this rise in gravity is that the negative plates before leaving the factory are given a slight sulphating treatment to prevent their oxidation; in giving the battery its initial charge the sulphate is reduced to spongy metallic lead, giving sulphuric acid to the electrolyte, which raises its gravity.

In pleasure vehicle service it is customary to enclose the cells with a tight-fitting rubber cover resting on the plate straps slightly below the top of the jar, and to seal the joints with sealing compound, placing a rubber plug in a hole in the center of the cover for filling cells with water to replace evaporation, the plug being supplied with a small hole for the escape of gases. In commercial service, covers are often dispensed with altogether, as the batteries are usually in service a greater proportion of the time and require filling and inspection much oftener. Where covers are used to prevent splashing, they usually rest on special supports and are seldom sealed. From 40 to 42 is the largest number of cells that it is customary to use, as more than this number cannot be charged in series from a 110-volt lighting circuit, and, without special and inconvenient apparatus, it is bad practice to charge batteries in parallel. In the smaller equipments, where the use of 40 or 42 cells would necessitate cells of very small size, it is common practice to use fewer cells of a larger size in spite of the fact that in charging some of the voltage may be wasted through resistance.

Factors Influencing Battery's Life.

The durability of a battery not only depends upon pure materials and uniformity of methods in manufacture, but also upon the care which it receives in operation. A battery could be ruined in half a dozen discharges by sufficient abuse, whereas, with good treatment the same battery might have run for several hundred discharges. The manufacturers, realizing the importance of this fact, have expended a great deal of time and money in trying to impress upon the users the importance of following a few simple rules; and the instruction books, which are carefully revised and brought up to date from time to time, are worked out with a view to bringing out clearly the necessity for following the rules laid down. One of these instruction books is now in its fifteenth edition. A battery is not like a steam engine or dynamo, which, if neglected, will squeal or groan and refuse to work. There are, however, just as clear evidences of trouble or neglect in the storage battery, if looked for, as there are in an engine or dynamo being run without oil. Voltmeters and hydrometers used in an intelligent manner can be used to determine a battery's condition with remarkable accuracy if properly understood.

The life of a battery with pasted plates is normally limited by life of the active material of the positive plates, which with each charge and discharge become more soft and loose at the surface, gradually washing out. As this washing out depends chiefly upon the number of charges, and, within usual limits, is practically independent of the strength or duration of the discharge current, it may be readily seen that statements of life expressed in time, or total mileage, are apt to be misleading.

Four-hour Capacity Is Standard Rating.

Present practice is to rate batteries on the basis of their 4-hour capacity; for instance, a 9-*PV* cell is rated at 24 ampères for 4 hours, the 11-*MV* cell is rated at 35 ampères for 4 hours. The reason for this is that present practice is to so construct the vehicles that at the average current consumption the vehicle will run for about four hours. Some years ago it was the practice to rate vehicle cells on the basis of their 3-hour capacity. This, however, was when a heavier type of cell was used and the requirements for mileage per discharge were not as great. If a battery will give 40 ampères for 4 hours, or 160 ampère hours, it will not give 160 ampères for one hour; and if discharged at 20 ampères it will give more than 8 hours, or more than 160 ampère hours. This is one reason why greater mileage can be obtained on a charge when the vehicle is run at low speed, although, of course, other factors, such as wind resistance, etc., play their part. Exide batteries with proper use will increase up to from fifteen to twenty-five per cent. more than their rated capacity.

Demands are made from time to time for a battery having a greater capacity for unit of weight. It is an axiom in storage battery work that greater capacity for unit of weight means decreased durability. The simplest way to increase capacity with the same weight is to fill the plates with a more porous paste. This results in a paste which, with use, becomes softened up and washes out more rapidly, and is not considered good practice. The preferable method is to make the plates thinner and put more of them in each cell. A plate of one-half the thickness will not have the same capacity as a plate of standard thickness, but it will have more than half the capacity. This fact, together with the fact of there being more plates per cell, and therefore, at the same current per cell the rate of discharge per plate is lower, makes an appreciably higher ampère-hour capacity per unit of weight. Cells have been made in which the positive plates are 3-16 inch thick and the negative plates 5-32 inch. By placing eleven of these plates in a jar designed for nine standard plates, the weight is increased about 2 per cent., while the capacity is increased about 20 per cent. The life, expressed in number of discharges, is naturally less in the special thin plate combination. If, however, the full capacity is taken out on each discharge, the life in ampère hours, or, in other words, the mileage obtained, would be about the same as with standard plates fully discharged each time.

Light Weight Is Not the Only Factor.

The aim in the design of the Exide cell is to produce the greatest watt output per pound at the 4-hour rate of discharge, consistent with durability. The straps and plate lugs are not only designed with reference to mechanical strength, but also are made of cross-section consistent with drop in voltage, to give the maximum watts per pound at the cell terminals. In the vehicle battery this is a most important feature. There are many cases where the vehicle manufacturers could give advantageous consideration to the drop in conductors. An Exide cell discharging at its 4-hour rate is giving, roughly, two watts per

pound of cell. In ordinary cases the most economical size of wire to use for the conductors would be that which would give a loss per pound nearly equivalent to the output per pound of battery; or a conductor loss of about two watts per pound of wire, since the number of watts per pound should be a maximum at the motor terminals and not only at the battery terminals.

Ignition Accumulators an Important Branch.

There are probably many cases where the addition of a pound to the wire or to the controller contacts would save three watts or more at the motor terminals. It would seem that aluminum is a metal particularly well suited for wiring electric vehicles, since its weight for the same conductivity is much less than that of copper. By using aluminum conductors it would, therefore, be possible to reduce the weight and also to reduce the total loss in conductors both together. Its cost for the same conductivity is about the same, or even a trifle less, than the cost of copper. I have, however, never heard of aluminum being used for this purpose in this class of work.

Storage batteries for the ignition of automobile gas engines have become quite an important development of the storage battery business. For this class of service it is not only necessary to have substantial and durable plates and fittings, but it is necessary that all the parts should be mounted in a compact and durable manner. Batteries for this class of work, at the present time at least, must be built for abuse. They are frequently discharged until practically exhausted, and they are allowed to stand in this condition. No battery worked in this manner can give the best results, and it is economy to take care of the batteries in this class of service just as it is economy to take care of them in other classes of service. The discharges, however, extend over long periods of time and, even when abused, after the battery has given comparatively few discharges it has had a considerable life, measured in time. The Exide battery for this purpose consists usually of three cells, each element composed of plates, usually 5 inches high and 4 3-4 inches wide, mounted in a rubber jar with wood separators, and having posts extending through the cover of the jar. The inter-cell connections are burned and the posts are extended and terminate in a bolt and nut connection for the ignition. The bolts were formerly made integral with the posts, but owing to the possibility of their being twisted off or stripped they are now made separate and can be easily replaced if broken or damaged. The cells are mounted in a substantial box and are made integral with the box by pouring compound between the jars and the sides, and flooding the compound level with the top of the box, which is somewhat above the top of the jars and inter-cell connectors. Tubes placed in the covers extend through this compound and are closed by a removable vent cap, which gives access to the cells for filling with water to replace evaporation. It is good practice to charge these batteries at regular intervals whether they are being used much or not.

Simple Rules to Be Observed.

In general, the observance of a few simple rules is all that is necessary to get the best results from any kind of lead storage battery. The principal rules to be followed are:

(1) Keep the level of electrolyte above the top of the plates.

(2) Never replace evaporation with anything but pure water; the use of dilute acid for this purpose causes much harm, and should never be resorted to until it is known that the specific gravity of the acid cannot be brought up to its proper value by continued charging.

(3) Do not make a practice of charging batteries when only a small percentage of their capacity has been taken out, except, as above noted in ignition service, where the length of time necessary to take out a larger percentage might be too long.

(4) Do not allow the batteries to remain an unnecessary moment in a discharged condition, and at intervals see that the battery is charged to its maximum.

AUTOMOBILES AS AN AID TO AMERICAN RAILWAY SERVICE

PHILADELPHIA, July 6.—The Pennsylvania Railroad Company, as an experiment, introduced the use of automobiles to expedite the handling of freight between stations in large cities. Such a service has been started between Kensington and Shackamaxon stations in Philadelphia, and if that is a success it is planned to try the same experiment in other large terminal cities, such as Pittsburgh and Baltimore. The automobile truck which the Pennsylvania Railroad is using in Philadelphia has saved between six and twelve hours in the handling of package freight between the stations named. This freight automobile has a capacity of five tons and is driven by a six-horsepower electric motor. It averages about seven and one-half trips a day, carrying 2.2 tons per trip, its daily mileage averaging about eight miles.

Previous to the introduction of the automobile in the Kensington district, small lots of freight were sent from station to station in cars. With the automobile service congestion is relieved and the movement of freight by a direct route instead of a circuitous one saves both time in delivery and the use of freight cars. The Pennsylvania Railroad is also bringing the automobile into use in its passenger service. In Jersey City an innovation is the introduction of large automobile trucks in the baggage service. These trucks are about the size of a three-horse wagon and are so built that when being loaded the floor of a truck is on a level with and flush against that of a baggage car.

Many hard knocks are in this way saved to every trunk handled in this way through the Jersey City station. In moving a trunk from the car to the truck it receives about the same handling it would get in being shifted about inside the same car. This is but one of the trunk protective features of the trucks. Another is that they are enclosed entirely with a wire grating and leather top, preventing any scraping or falling in the trip across the river.

The service to which the new trucks are being put entails through trips between the baggage cars and the Twenty-third street station in New York. They are loaded to their full capacity and are raised and lowered between the ferry level on elevators. The electric power does away with the manual labor formerly necessary to push loaded trucks up the heavy grades at the approach to the ferries at certain stages of the tide. The truck is about fifteen feet long and five feet wide, with a seat in front for the driver. Its height, of about nine feet, is necessary, that the floor of the truck may meet the baggage car floor on a level.

Not only in Jersey City is the automobile being used in the passenger service. In Broad street station, Philadelphia, there are in use automobile trucks for baggage and mail. These, however, are about the size of an ordinary hand truck, and very similar in appearance. The electric mechanism is placed under the body of the truck and is operated from the handle or "tongue."

So satisfactory have these automobiles proved in the baggage and mail service that there are now being built a number of small electric trucks for use in the new terminal station in Washington. These will be similar to the trucks now used in Broad street station, though they will embody improvements which are expected to overcome the slight difficulties which have been experienced with the first automobile trucks that were placed in service.

ALCOHOL VERSUS GASOLINE AS FUEL FOR AUTOMOBILES

IN reply to inquiries from the United States, Consul-General Robert P. Skinner, of Marseilles, furnishes the following information relative to the status of alcohol and gasoline as power producers in France and the efforts which have been made toward the general use of the former:

Real and rapid progress has been made in overcoming past objections to the use of alcohol, and when the price of denatured alcohol is somewhat lower than the price of gasoline, it can be substituted for the latter, both for automobiling and general purposes. Former reports showed that the high cost of alcohol, excessive consumption, and the resulting oxidation of mechanical parts had not been counterbalanced by any discoverable advantages. How seriously these problems have been attacked may be judged from the expression of an informant—perhaps the most important French manufacturer of carbureters.

We estem the question of the industrial use of the alcohol motor as definitely resolved, and the carbureters created in view of this utilization have given satisfactory results. The use of alcohol will become more advantageous when an understanding is brought about between the producers, whereby prices shall obtain some fixity, and when the State shall have solved the question of the denaturing agent.

If ingenuity has mastered the material difficulties in the way of substituting alcohol for gasoline, commercially the problem is almost as insolvable as ever; and if it is insolvable in France, where gasoline is dear and alcohol relatively cheap, it must be still more so in the United States, where gasoline is cheap and alcohol is dear. Nevertheless, with raw material available for the manufacture of alcohol in every country under the sun, and with very few gasoline producing centers, it is hardly venturing too much to assume that ere many years there will be a permanent and general use of alcohol as a source of motive power.

Coke Gas Combined with Alcohol.

The one serious and sustained practical experience with alcohol as a driving force in France is that of the Compagnie Générale des Omnibus de Paris, the heavy public vehicles of which traveled 2,218,291 miles between June 11, 1906, and November 1, 1907, propelled by a mixture of 50 per cent. of carbureted alcohol and 50 per cent. of benzol. Benzol, it may be added, is of recent manufacture in France, where it is obtained by the condensation of gases recovered from coke.

This experiment is conclusive in its material aspects, but it is successful commercially only because of the artificially high price of gasoline in the city of Paris, brought about by the imposition of an octroi tax of 20 francs per hectoliter ($3.86 per 26.41 gallons). The effect of this municipal taxation is such that in Paris gasoline was worth in November last 56 francs per hectoliter ($10.81 per 26.41 gallons) against 39 francs ($7.52) for carbureted alcohol, the octroi duty upon which is only 5.10 francs (98 cents) per hectoliter. These octroi taxes vary greatly in different municipalities, and leaving them out of consideration, the general price of gasoline in France last November was 36 francs ($6.95) per hectoliter and that of carbureted alcohol 33.90 francs ($6.54). Though the advantage as to price is apparently with carbureted alcohol, it must always be remembered that the consumption of this fuel exceeds that of gasoline by about 5 per cent. Thus, for the moment, while alcohol motors can be used and are used, no real economy has yet been effected by the use of alcohol as a driving fuel.

Government Consideration—Manufacturers' Views.

The French Parliament is now actively considering the subject in all its aspects, and the proper committee has recently summoned to its sittings various distillers of alcohol and manufacturers interested in its use. The following are translations of two letters addressed to the Parliamentary Commission by auto manufacturers. A firm at Vierzon wrote:

In reply to the questions which you have addressed to us in regard to the means necessary to extend the industrial and commercial use of alcohol, we beg to say that carbureted alcohol with 50 per cent. of benzol possesses all the advantages of gasoline. This product, employed in a good carbureter, does not grease the motors, and only attacks the valves. The slight accumulation of grease which we have recognized arises chiefly from the denaturing agents employed by the administration. During several years we have made use of carbureted alcohol, and the only disadvantages which we have recognized are the difficulty of obtaining supplies while en route and the awkwardness growing out of the instability of prices, which discourage the partisans of alcohol.

A concern at Billancourt wrote as follows:

We desire to state that we have few devices constructed for the use of alcohol, for these reasons: Up to this time there has been no economical reason why carbureted alcohol should be employed; on the contrary, the cost of gasoline is lower. Moreover, carbureted alcohol causes a more rapid deterioration of the motors than gasoline, on account of the presence of water which is found in the alcohol, and which, producing a condensation upon the metallic linings, causes them to rust.

In order that pure alcohol or carbureted alcohol may replace gasoline, it is necessary that the cost per horsepower be notably lower than the cost obtained by the use of gasoline.

It is possible to put motors in movement with carbureted alcohol without first heating them, although this is less easy and less sure than with gasoline; but with pure alcohol it is necessary to heat the carbureting apparatus by means of an exterior envelope before satisfactory results can be obtained. In conclusion, we have only utilized alcohol or carbureted alcohol in order to conduct laboratory experiments and for one or two races.

CONCERNING THE OTHER SIDE OF THE QUESTION

WEIRD and fearful reports and articles on the dangerous man-killing automobile were rushed through the German press when the official figures of 4,864 accidents in one year, with 145 deaths and 2,419 injuries, were issued in one undifferentiated whole, says *The Car*. In order to have a carefully made analysis, the Government handed the whole of its collected material to the well-known pioneer of automobilism and technical expert, Major-General Becker, to sift causes and results, and to embody his deductions in a pamphlet. The General devoted special attention to the 145 most serious accidents, and found that the official reports divided them as follows: Thirty-five children were run over, and 52 adults; there were 22 collisions; and 23 houses, walls and trees, etc., were run into; and 13 accidents were caused by horses taking fright. Now comes the *dénouement*, which is very unpleasant for the prejudiced anti-motorist. In 110 of these 145 cases the law could not enter into action, as the fault was not on the side of the motorist. When, however, punishment was deserved it was meted out heavily, and nobody could enter a plea of prejudice even in the least degree. In 58 cases there could be no police summons or law action taken; in 8 of these accidents, however, the driver himself was killed. In 42 cases legal action was commenced, and then quashed, as no case could be made out. In 10 cases the motorist was acquitted, in 2 cases the drivers could not be found. In 1 case a police fine was ordered. In 17 cases the verdicts were imprisonment from a week upward to a year and a half, and the remaining 15 cases were not settled when the statistics were issued at the end of April.

LETTERS INTERESTING AND INSTRUCTIVE

CONCERNING SOME ITEMS OF DESIGN.

Editor THE AUTOMOBILE:

[1,456.]—Please let me know through "Letters Interesting and Instructive" how to calculate the horsepower of a gasoline motor according to the latest formula; how to calculate the size of valves for the average automobile motor; and how much compression space is generally used. JOHN HOFSASS, JR.

Baltimore, Md.

The latest "popular" formula is that of the Association of Licensed Automobile Manufacturers, and consists of $\frac{D^2 \times N}{2.5}$ = horsepower, in which D = bore of the cylinder; N = the number of cylinders, while the denominator, 2.5, is a constant derived from calculations on a number of standard motors generally conceded to be the most efficient types. There are hundreds of other formulas of various kinds, but none of them, seem to represent any great improvement on the old steam standard of $\frac{P L A N}{33{,}000}$ = horsepower, in which P = the mean effective pressure throughout the power stroke; L = the length of the stroke in inches; A = area of the piston head on which this pressure is exerted, thus corresponding to D^2 of the A. L. A. M. formula, while N = the number of power strokes per minute, the denominator being Watts' standard horsepower equivalent.

In earlier practice it was customary to make the inlet valve 1-4 of the cylinder in diameter, and the exhaust valve 1-3 of the bore, while the lift necessary to give a theoretical full opening of the usual poppet type of valve was 1-4 of the valve diameter. However, as precedents these figures are now valueless, it having been customary with motor designers during the past four or five years to make the valves as large as possible, and it is now nothing uncommon to find valves that are half the cylinder diameter in the case of both inlet and exhaust, while some will even exceed this by a slight margin. This permits of the reduction of the lift of the valve to obtain the same effective opening and makes a more quiet running and durable mechanism. It is customary to make the compression space 25 to 30 per cent. of the cylinder volume, but this, like many another point of motor design, is something on which numerous differences are found in practice, though most of them are not radical by any means.

WIRE SIZES USED ON MAGNETOS AND DYNAMOS.

Editor THE AUTOMOBILE:

[1,457.]—Could you please give me any information concerning the size wire they use on the magnetos and dynamos for sparking? A. DICKIE.

Newark, N. J.

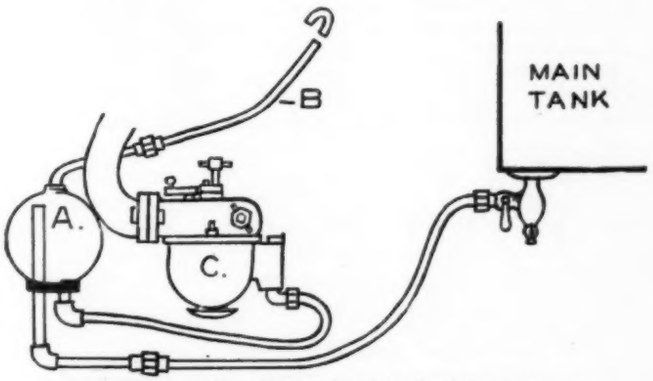
The winding of the armature of the average magneto for high-tension service is made up of wire ranging from about 30 to 25 B. and S. gauge, or its equivalent in metric sizes, in the case of foreign made machines, each maker naturally having standards of his own, but most of them are said to fall between the range given above. In the case of the armature winding of the true high-tension type of magneto in which the high-tension current is generated directly in the armature, the two windings differ very little in size. As a matter of fact, they are really a single winding. In the high-tension-with-coil type the single winding on the armature is larger, and the coil itself has the usual primary and secondary windings, the latter of which is usually of much higher resistance than is the case with the average coil for battery use. There is the same difference of opinion on the part of designers of small direct-current dynamos for ignition service as to the proper size of wire for armature and field windings, varying, of course, with the output for which the machine is intended.

OF INTEREST TO FORD OWNERS.

Editor THE AUTOMOBILE:

[1,458.]—Being a subscriber to "The Automobile," I have obtained considerable information from your letter department and have been much interested in the inquiries. I am driving a Model N Ford and have made a few changes that I think would be interesting to others. In making any changes, I have always proceeded in such a way that if such a change was not an improvement, I could replace things exactly as they were in the first place. Our runabout, when received, was adjusted so that the throttle was only partially closed when throttle lever was clear forward. This is probably necessary to prevent amateurs from stalling the engine, but it is certainly not the proper final adjustment after one has learned to master the car and the machine has become limbered up. By changing the set screw on the carbureter and shortening the connecting rod I adjusted the throttle to close entirely, when throttle lever is clear forward. Now, while driving, if a quick stop is necessary, merely closing the throttle and applying the brakes is more efficient than the brakes alone and the engine is also ready to act as a brake at any time by simply closing the throttle. This simple little change has made driving half again as easy for myself as well as others of my acquaintance.

When driving the car the first month or so, I kept only two or three gallons of gasoline in the tank and invariably on any of our steepest hills I was stalled, for the reason that the gasoline would not flow up-hill. I am enclosing a sketch of the device I



Ingenious Auxiliary Tank Fitted to Ford Runabout.

made use of to prevent this. It works to perfection. There are few continuous grades over three miles long, and with this device, whenever a level or nearly level stretch is reached, the auxiliary fills, and the steeper the next grade is the better the gasoline from the auxiliary will flow to the carbureter.

People generally consider the Ford cars noisy, especially on the low gear, but they don't accuse our car of that now. With a 6x24-inch sheet iron tank and a few pipe fittings conecting it with the muffler that was on the car, I have made the exhaust absolutely silent. There is no increase in the back pressure, for I have made use of no baffle plates whatever, but by merely retaining and cooling the exhaust gases that much more, the pressure is reduced to practically nothing. Several of your correspondents have inquired into the magneto question, and I hope my experience will be of some benefit. I have attached and am using a K-W magneto on our runabout and find it all the makers claim for it. It did not work perfectly, however, with the coil and vibrators on the car until we bought a K-W Master vibrator to use in series with the magneto, and the old coil with vibrators shunted out. This capped the climax. The Master vibrator itself is as much of an improvement with either the battery system or magneto as the magneto is over the battery. The engine runs as smooth as silk, cranks easily on the magneto, and certainly shows more power than it ever did.

Now, if I have not taken up too much space, I would be greatly obliged for a little information on the following: Ford owners know that it is no easy matter to disassemble the carbureter in case the float level needs to be changed. I have read that the float level was not an all-important factor, but I think that the float level should be about right to get the best results in starting the engine and also throttling it down. Instead of taking the carbureter to pieces and bending the prongs holding the float, why would it not be better to make a threaded gasoline valve stem with a nut and lock nut and adjust the float level by changing the

position of this nut on the valve stem without taking the carbureter to pieces at all? Also kindly inform me as to what the makers of shaft-driven rear axle units depend upon for strength when no strut rods are used and the rear axle is fastened to the chassis merely by means of the driveshaft housing?

Otto, N. Y. DAVID L. BROWN.

There appears to be no reason why the expedient you mention with reference to being able to adjust the carbureter float level from the outside should not be feasible and work all right. While we do not believe the float level is an important factor where the mere running of the motor is concerned, and do not believe that it is responsible for erratic running in more than a fraction of the cases in which the latter is attributed to it, where economy and efficiency are concerned, it is desirable to have it adjusted properly to give the best results. The tubular housing of the driving shafts is made very strong and the sleeve surrounding the drive shaft is also made to take all the strains ordinarily imposed on the torsion rod. This type of construction has proven very successful on some prominent American cars.

BATTERIES FOR LIGHTING ON THE CAR.

Editor THE AUTOMOBILE:

[1,459.]—Will you please reply in the columns of "The Automobile" to the following? Will ordinary dry cells run a 6-volt lamp continuously for several hours at a time, or would such a lamp require a Sprague battery? There seems to be a conflict of opinion on this subject among electricians. Some say for constant use for hours at a time dry cells would polarize; others say dry cells would prove as satisfactory as storage, except possibly their life would be somewhat shorter. Can you shed some electric light on this subject? GEORGE A. FAY.

Meriden, Conn.

Dry cells would be useless for such a purpose for the reason that they would polarize, as some of your advisers have already informed you. The dry cell is what is known as an open-circuit type of cell, in that it is only designed for intermittent service. It must be allowed to recuperate between drafts upon its available supply of current. If not, it shortly fails altogether, and this was the reason why it proved so unsatisfactory for ignition service on early cars in which poorly designed coils and timers made excessive demands upon it. The storage battery is the only method of lighting such lamps, but it can be kept charged constantly by means of a direct-current generator and automatic cut-out, the former being run by the motor. Couple a six-volt lamp to six dry-cells in series and you will find that there is a drop in voltage as evidenced by the dimming of the light after a few minutes, while at the end of the tenth minute at the outside the effective candle-power will be *nil*. Probably there are few things about a car that have been so universally misunderstood as the dry cell, and for this reason it has been generally condemned, simply because it could not do what it was never designed for.

TO PREVENT RUST ON WHEEL RIMS.

Editor THE AUTOMOBILE:

[1,460.]—What is the best preventive of rust on the wheel rims of my car? The climate here is very damp, and I do a good deal of wet weather driving, with the result that I encounter continuous trouble in the way of rusted rims, which rapidly rot and cut the tires, until the casings finally are in such condition that they pull off the rim in a fashion that leaves them beyond repair. When the car and the tires were new I experienced no trouble of this sort, which I attribute to some preparation that was on the rims, but which has since worn off. If you can tell me what this was, you will greatly oblige a new recruit. ROBERT JEWETT.

Marshfield, Ore.

For the protection of tires and rims from the effects of moisture, it is usual practice to keep the latter well painted, or to give them a coat of shellac from time to time. Any neglect of this precaution is declared by the tire makers, and by most users generally, to be fatal to satisfactory results, as would appear to have been the case in your experience. We would advise you to profit by this, and hereafter keep your rims in good condition. Probably it will be necessary, before applying the first coat of shellac—which dries more quickly and is fully as effective as paint—to clean off all the rust now on the rims. This can best be done by the use of emery cloth, applied with a liberal quantity of elbow grease. It hardly seems possible that all of your trouble can have arisen from the mere rusting. From the wording of your query there would appear to have been considerable rim cutting, which never occurs except when tires are run insufficiently inflated, though rusty rims will aggravate it. Keep your tires pumped hard at all times and do not let any one dissuade you from this practice by specious arguments as to smoother and easier riding. Tires may easily become the greatest source of annoyance about a car, if improperly looked after, but if rightly cared for will afford wonderful service.

DATE OF THE FIRST SIDE-ENTRANCE TONNEAU.

Editor THE AUTOMOBILE:

[1,461.]—Through "Letters Interesting and Instructive," I wish you would tell me when the first model of American-made car with side entrance was put on the market.

Detroit, Mich. THOMAS G. MAY.

We think the 1904 models marked the first use of the side entrance tonneau which had been made possible by the lengthened wheelbases then adopted, and as it was not then the custom to bring out the model of the next succeeding year six or eight months in advance, probably the side entrance tonneau was not seen on an American car in this country much before December, 1903, or January, 1904. Doubtless some of our readers are better posted on the history of this valuable development and can give more definite dates.

A BRIEF FOR THE MAKE AND BREAK.

Editor THE AUTOMOBILE:

[1,462.]—I feel that you are doing an injustice to a splendid system of ignition in your answer to B. Seyfert, regarding the make-and-break spark. He either has a short circuit, or an almost constant contact, or his coil is of no value. I have frequently used dry cells on Duryea engines for weeks at a time, covering probably more than a thousand miles. Have also driven continuous trips with or without a night's rest between, of 150 to 300 miles with them. In these cases the contacts were set for magneto ignition and were much longer than for batteries, because we were never careful to save the magneto current. Coil makers have paid particular attention to coils for jump spark, but the make-and-break has not had this attention and few people have ever tried to produce economical coils. I made for my own use a few ironclad coils in 1898 and 1899 which had the core wires returned over the outside of the coil, thus making each wire into a horseshoe magnet and exposing it to the influence of the current more fully. This added quite materially to the efficiency and economy.

E. J. Stoddard has probably carried these experiments farther than any one else and has taken out patents on some very fine forms of make-and-break coils. And with such a coil your subscriber can run his engine with the batteries his jump spark friends have thrown away. Another thought is that this form of spark will ignite mixtures that the jump spark will not. A Duryea user in Texas, Tom Huling, has applied to his Duryea the best jump spark apparatus he can buy and finds that with this the best mileage he can get per gallon, taking a thousand miles of running for test, is 23.5, but with a fat make-and-break he gets about 30 miles. Does it not seem strange that folks will save a few cents on sparking apparatus and waste money on gasoline? Or that scientific men will argue that the size of the spark makes no difference, when anybody knows that a hot spark will fire mixtures a lean one will not; or that wet wood will burn if the kindling is sufficient. CHARLES E. DURYEA.

Reading, Pa.

A RADIATOR REPAIR THAT LOOKS GOOD.

Editor THE AUTOMOBILE:

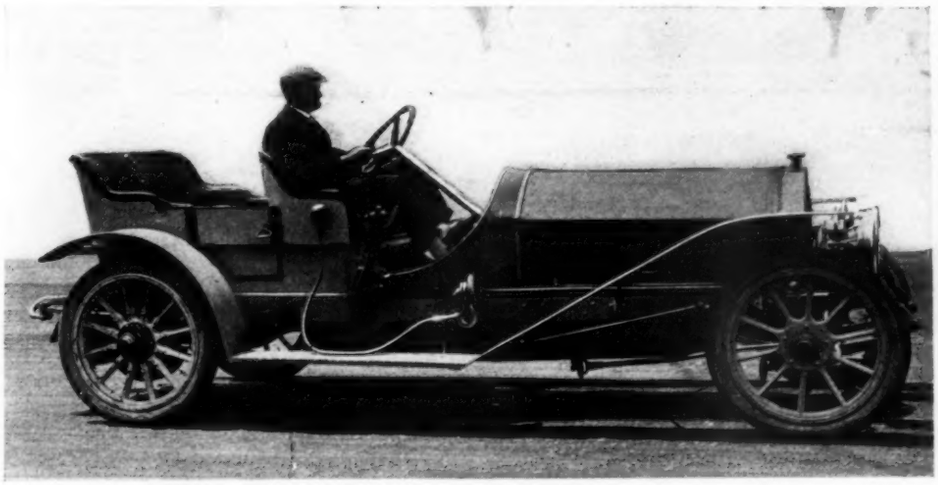
[1,463.]—In your issue of June 18, under "Letters Interesting and Instructive" about repairing leak in Honeycomb radiator, I thought I would tell you how I repaired mine. Drain out all the watr, and mix up some Smooth-on (which is used for smoothing new castings) very stiff and hold a piece of pasteboard back of the radiator and fill three or four holes where leak was, and in fifteen minutes you can use it. A. E. GRAY.

Flandreau, S. D.

P. & S. "SIX-SIXTY" AN ENTRANT TO SIX-CYLINDER RANKS

AMONG the numerous models brought out for the present season by the Palmer & Singer Manufacturing Company, New York, none has excited more attention than the euphoniously named "P. & S. Six-Sixty," the latter part of its title showing that it is a six-cylinder car of 60 horsepower. The motor has six cylinders of 4 1-2-inch bore by 5-inch stroke, cast separately with integral water jackets, and is rated at 60 horsepower. The exhaust and inlet valves are on opposite sides of the combustion chamber, and their camshafts are located within the crankcase. The crankcase is divided horizontally into two sections, the upper half holding the bearings for the crankshaft and the camshafts, and the lower half forming an oil reservoir from which the oil is drawn and distributed to the main bearings. The crankshaft runs on seven plain bearings, bushed with a special bronze. The engine is positively lubricated by a pump that drains oil from the sump in the crankcase and delivers it to an auxiliary tank shown just above the exhaust pipe in the illustration. From this tank the oil is distributed to the seven main bearings, from which it is led through the hollow crankshaft to the crankpin, and thence up the connecting rods to the wrist-pins. The oil thrown off by the crankshaft lubricates the piston and cylinder walls, and the surplus drains into the sump. A compensating carbureter of the company's own manufacture is used; it is water jacketed, the water connections being plainly shown in the cut of the inlet side of the engine. The cooling water for the motor is drawn from the radiator by a gear pump situated on the exhaust side of the motor. Power is transmitted from the engine through a multiple disc clutch with forty-nine steel-to-steel discs. The clutch is located in the same housing with the change-speed gears. Four speeds and a reverse, operated selectively, are provided with the direct drive on the third speed, as is now customary.

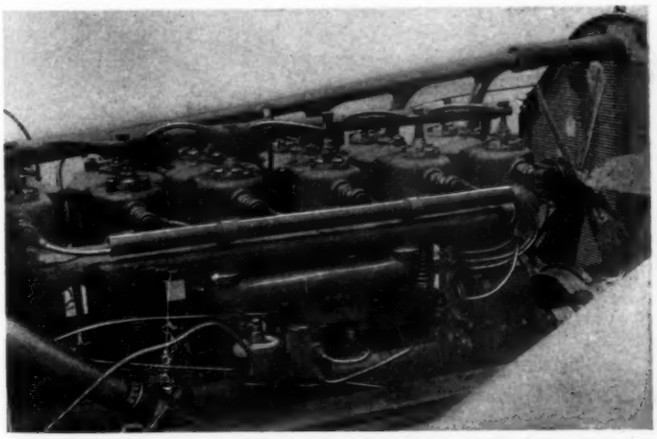
The gear ratio on the third speed is 3 to 1 and on the fourth 2.1 to 1. The clutch and gears are lubricated by a non-fluid oil, and it may be a surprise to many to know that the clutch operates satisfactorily even when packed in heavy grease. The change-speed gears run on imported F. & S. bearings. These bearings are used throughout the car, with the exception of the crankshaft. The final drive is by a cardan shaft, fitted with two universal joints to the live rear axle. The universal joints are packed in grease and rendered oil-tight by leather caps. The rear axle is fitted with radius rods and a torsion rod, which insures alignment even under the most severe stresses.



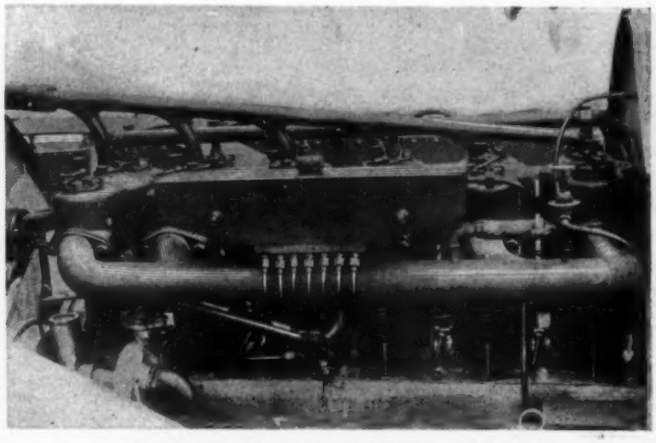
Lines of the New "P. & S. Six-Sixty," with Baby Tonneau.

Two separate and distinct systems of ignition are used—viz., a Bosch high-tension magneto, which is shown on the inlet side of motor, and a dry battery system with single coil and secondary distributer. Two sets of equalizing brakes are fitted, both operating on the rear wheels. Steering is irreversible, through worm and sector gearing, with universal joints at all steering connections. Spark and throttle levers are on a quadrant on the steering wheel convenient to the right hand, and a foot accelerator is provided. A 28-gallon fuel tank is suspended from the rear of the frame from which the fuel is forced to the carbureter by exhaust pressure. Grease cups are liberally used on all steering and spring connections.

The P. & S. "Six-Sixty," as it is called, is made in one model, but is fitted with three styles of body—viz., runabout with single rumble and double rumble seats, and light touring with baby tonneau. The wheelbase is 125 inches, with a tread of 56 inches. The frame is of channel section chrome nickel steel and trussed to insure rigidity. It is mounted in long semi-elliptic springs both in front and rear, giving easy riding qualities. The front wheels have ten spokes and the rear wheels twelve spokes, and both are fitted with 34 by 4-inch Diamond tires mounted on Marsh detachable rims, although any make of tire will be furnished at the option of the purchaser.



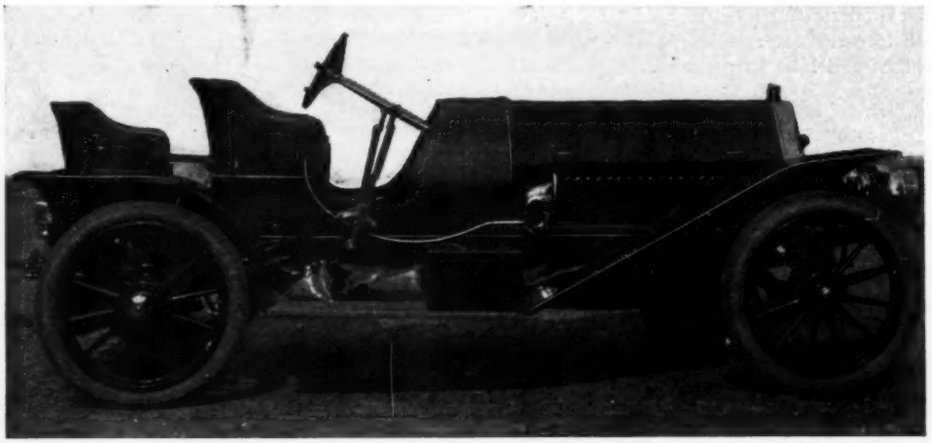
Inlet Side of Motor Showing Manifold Design.



Exhaust Side Showing Location of Oil Tank.

BRIEF SPECIFICATIONS OF THE NEW "JEWEL" ROADSTER

UNDER the title of the "Jewel 40" roadster, the Forest City Motor Car Company, Massillon, O., are building the new runabout type shown by the accompanying photograph. The motor is a four-cylinder vertical Rutenber, the dimensions of which are 4 1-2-inch bore by 5-inch stroke, and it is fitted with a Schebler carbureter. For ignition a dual system is employed, consisting of a Bosch high-tension magneto for the running side, with an Exide storage battery and Connecticut four-unit dash coil for starting and emergency use, two sets of independent spark plugs being employed, and the wiring is so arranged that either of them can be instantly brought into use by means of a switch conveniently located on the toe-board. A double system of lubrication is also employed, a self-contained oiler being placed in the crankcase, while this is supplemented by a six-feed mechanical force-feed oiler in addition.



Lines of the Latest High-powered Roadster from the West.

A conical type of leather-faced clutch, employing cork inserts, a three-speed sliding gear on the selective plan and a straight line drive to a full floating type of rear axle, comprises the transmission of the car, the gear ratio being rather high, that is, 2.5 to 1. The front axle is a one-piece drop forging of I-beam section, the front and rear wheels being carried on Timken roller-bearings, while the same type is also employed on the gear-set and steering knuckles. The frame is of the usual channel section pressed-steel construction and is supported on semi-elliptic springs forward and a platform type of suspension in the rear. Double brakes of the usual internal expanding and external contracting types placed in special drums on the rear wheels are fitted.

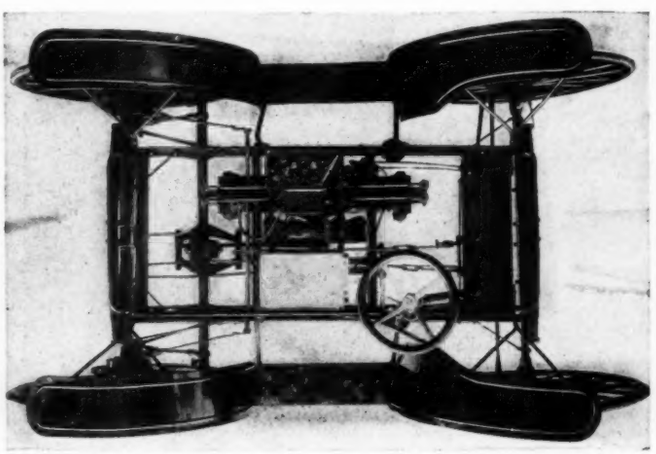
ANOTHER BUGGYABOUT HAILING FROM THE EAST

THOUGH this part of the country was the home of the buggy type of automobile in that the pioneer American automobile that wrote its name large on the history of the then nascent industry, hailed from Pennsylvania, the Middle West really discovered its value and the large field that exists for it. Now, however, interest in these handy little vehicles again seems to be shifting eastward, as evidenced by the production of a car of this type right in New York City. This is the P. M. C. solid tire runabout, which is being built by the C. S. Peets Manufacturing Company, 60 West Forty-third street, New York City.

The power plant consists of a two-cylinder horizontal opposed, air-cooled motor, the cylinder dimensions of which are 4 1-8 by 3 3-4 inches, while its rating is 12 horsepower. Lubrication is taken care of by a six-way automatic force-feed lubricator, while ignition is of the high-tension type, employing a set of dry cells and a double-unit dash coil and low-tension timer. The carbureter is a Breeze automatic. As will be evident from the plan view of the chassis, the motor has been placed practically in the center of the heavy angle-steel frame, while the drive from it is first taken to a countershaft from the two-speed and reverse planetary gear-set, and thence to the rear wheels by double chains.

Brakes are of the band type, placed on rear wheel drums, while the wheels are 38 inches in diameter and are shod with 1 1-4-inch solid rubber tires. The wheelbase is 70 inches, while the tread is standard; complete the car tips the scales at 900 pounds and lists at $550, the top being extra.

P. M. C. Solid Tired Runabout Ready for the Road.



Plan View of Chassis P. M. C. Solid Tired Runabout.

On Pleasure Bound—No Small Rôle in the Life of the Farmer's Auto.

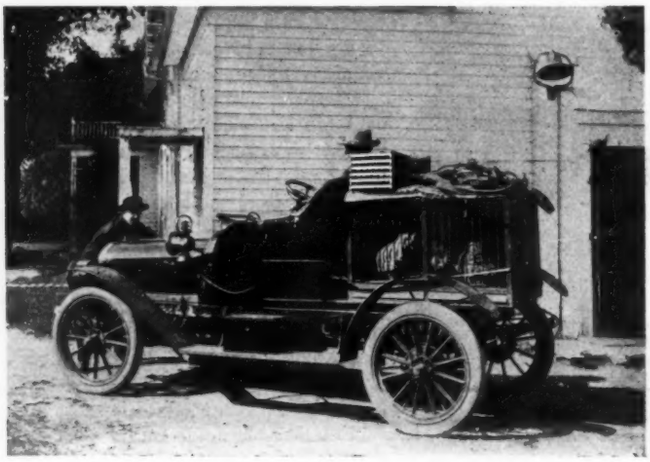
THAT there is an especially rapid and growing tendency to-day among the most far-sighted of American farmers to so systematize their farm business as to effect the greatest saving in time, labor and expense is aptly demonstrated by the general adoption of what is known as the utility, or practical, automobile on thousands of the best managed farms. While time and labor-saving machinery has marvelously widened the range of his productive capacity, the means by which the farmer himself was to keep pace with this progress has been a longer time in coming. The average farmer spends too much time getting from place to place. He works his horses almost as hard whether he is taking a load of produce to the city or just going in on business. The care and attention required by horses incident to a pleasure drive, a trip to church or to town is just as great as the task of preparing them for work in the field. But the most discouraging fact of all is this—the farmer himself and his family rarely can give any time to recreation.

If the practical automobile accomplished no more than to save a farmer's time, to provide pleasure and health to his family and to leave his horses fresh for that work for which they are better fitted it would certainly be a good investment. The fact seems to have been amply proven that the dependable utility car actually costs less to keep, can do ten times as much of different classes of work, is always ready for service and is much less troublesome to care for than the horse. Ten years ago the automobile was an experiment. With the reckless rich it is still a fad. But to-day some types of automobiles are so designed that they have become a practical success and a recognized necessity. Now that a strong, durable, common sense machine that uses very little fuel can be had at a reasonable price, we find country people in many localities enjoying the comfort, convenience and economy of good automobiles.

There are some striking differences in automobiles. The car that would give satisfactory service on the city pavement and the level country might be a failure on the farm. Given a machine that hills cannot feaze nor muddy roads balk, and important requirements of the farmer have been met. That gasoline is the cheapest motive power known has been amply proven. It has been definitely shown that in the most dependable cars the average cost of fuel and lubricating oil would not exceed one cent per mile, and this for a car capable of carrying five passengers. A driving horse ordinarily cannot travel more than 50,000 miles during his lifetime, even though he does not go lame. Many automobiles cover a great part of this distance in one or two seasons. That the horse has his rightful place on the farm is not yet to be denied. There is certain work which he can do which the automobile cannot, but it is mostly in the field—certainly not on the road. Consider the convenience to be enjoyed if in thirty minutes a man living fifteen miles from town can, should occasion require, make a trip to the city, transact his business and run back, spending but one hour on the road. Horses for certain kinds of service, including work horses and thoroughbreds, will always be in demand, but to-day the farmer cannot allow sentiment to stand in the way of his own comfort, his own profit and his own business progress, and the average American farmer is too far sighted to do so.

Like the telephone, the trolley car and the rural free delivery, the automobile has naturally come to weld a firmer link between the business men of the country and of the city. Farms in Texas which could not be sold, in spite of their greater fertility, before the arrival of the practical automobile, are now greatly

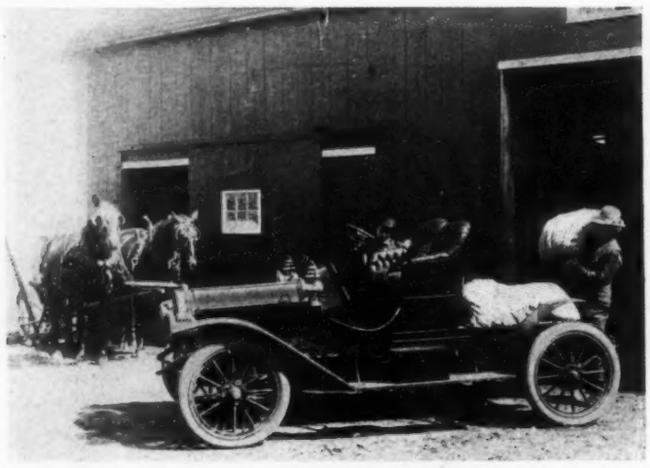
Milk That Would Otherwise Be Fed to Pigs Owing to the Distance from Market.



Only One of the Many Uses of the Car.

increased in value and brought within what is considered easy distance of the market, although this distance is often between thirty and forty miles. When it is considered that the utility automobile possesses such power equipment that it can travel the worst roads in any season of the year, can negotiate any hills which could be climbed with a horse and wagon and requires but the simplest attention, it seems to be pretty well adapted to the uses of the farm.

The expense of up-keep in some cars has been reduced until to-day a man can operate a car, spending less for oil and gasoline than the cost of feeding a horse. It is worthy of note that the car is a matter of expense only when in actual operation, and that while in operation its road capacity is at least four times that of a horse-driven vehicle. As for repairs, if the car is given reasonable care and attention, they should be little in excess of the cost of shoeing and repairs on harness, etc. In point of operating knowledge, even were this not simple enough, the farmer has a great advantage. Primarily, he is more of a mechanic of necessity than the city man. But his chief advantage lies in the fact that he knows something about machinery and is, therefore, able to save the expense of practically all repairs that might become necessary through accident. The foregoing photographs were taken on the farm of a Rambler owner. He is an old horseman and he still retains his horses for that farm work to which they are best adapted. However, as a means of saving time, he uses the automobile, and it goes without saying that he is but the forerunner of a vast army of American farmers who will shortly come to recognize the great possibilities that the automobile holds for them, and then the now prevailing prejudice against the power machine will disappear entirely.



It Is a General Utility Vehicle for Everything.

STANDARDIZATION RATHER THAN SPEED.

The "Canadian brother" coments favorably on the American automobile manufacturer, as will be noted in the following, taken from a recent issue of the Toronto *World*:

American manufacturers are naturally proud of the number of automobiles which are constructed and sold every year in this country, but the output, instead of lessening, will be increased over and over again. No man can forecast precisely what direction the development of the industry will take, but, speaking in a general sense, the dominant tendency from now on will be towards standardization rather than speed. This means, of course, the construction of an automobile which will be staunch enough to last not for one season alone but for an indefinite period, and render for that period continuous service with an imperceptible amount of wear and tear. This tendency toward staunchness and standardization will have the effect of putting the automobile business on a sounder basis, financially and otherwise, than it has ever been up to the present moment. Standardization will tend to discourage cheap and careless manufacture.

THERE ARE MANY WAYS OF USING A CAR.

No market for automobiles is opening faster than that presented by the farmers throughout the entire country. Prosperous beyond all previous experience, they have the money to spend and are spending it for automobiles, as the books of any car manufacturer will show. Presumably the

How an Old Ford Makes the Sawdust Fly.

farmer buys a car primarily for pleasure, but its practical value quickly appeals to him and is as quickly put to test, so that the car that was bought for pleasure is at daybreak grinding feed for the cattle and cutting wood for the fires, and then takes the children to school. At noon it brings the farm hands in to dinner, in the afternoon it runs the dairy or pulls a snow plow or a road scraper, and at night is used for a pleasure trip. An illustration of the practical value of the automobile is found in Louisburg, Kan. C. C. Williams bought a Ford runabout three years ago and recently he bought a second. The picture shows the original car cutting wood.

PROPOSED BOULEVARD SYSTEM FOR MONTREAL.

Montreal, Que., July 3.—Plans for beautifying the city of Montreal by the establishment of boulevards and driveways have been submitted to the parks and ferries committee by the Architects' Association of Montreal. The idea is to have a great boulevard from Mount Royal to St. Helen's Island, across the river from Montreal. The plans comprise the first systematic attempt to establish boulevards or driveways between the various parks of the city at anything like a reasonable cost, as it is contemplated utilizing the streets and property of the city practically all the way, so that it has been found possible to greatly reduce the appropriation necessary to carry out the work.

WITH THE MANY UPHOLDERS OF THE LAW

WARD LAW GREATLY CONFUSES OHIOANS.

COLUMBUS, O., July 6.—There seems to be much confusion in the minds of owners as to the provisions of the Ward automobile law and the interpretation of it by Secretary of State Thompson. Some have interpreted the statement of Secretary Thompson that he would disregard the opinion of the solicitor of Cincinnati as to the right of cities to issue licenses, to mean that he will ignore the provision of the Ward law, which exempts for this year all autos which have paid city licenses. Letters are pouring in upon the secretary protesting against this.

The Ward law expressly exempts all machines owned in cities requiring annual licenses, and which licenses have been paid for 1908. Such machines will be exempt this year, but next year will come under the law and pay licenses to the State, excepting in Cleveland, where a perpetual license ordinance exists. Those who have such licenses must pay the State license this year. City licenses will be optional with the local governments.

Two serious defects have been discovered in the Ward law. There is no authority for putting a date mark on the tags, and no one can tell whether the license a tag represents is in force or has expired. Again there is no license year established. Each license issued will be good for one year from date, so that licenses will be continually expiring. This will make the enforcement of the law very difficult.

A VERY INGENIOUS AUTO TRAP.

PERTH AMBOY, June 17.—Catching offending automobilists by electricity is the latest device of the New Jerseyites. Detective Lester J. Underhill, of this city, is the prime mover in the latest scheme now being worked in this part of New Jersey.

The device consists of a large wooden reel containing 1,370 feet of two-strand insulated wire, six battery cells, push buttons and bells. Underhill and his assistants carry this apparatus to some point along the post road and stretch the wire by the roadside. As soon as an auto reaches a point opposite the first man the signal is flashed over the wire to Underhill, at the other end, and he immediately catches the moment on one of two stop-watches which he holds. The second watch is stopped when the auto passes him, and he rapidly takes the time elapsed. If it is over the speed limit, he signals a third man to flag the auto, and if those in the machine ignore the warning, a fourth man stretches a rope across the highway.

In answer to criticism about the use of the rope, Underhill said to THE AUTOMOBILE man that it was not for the purpose of wrecking the machine, but is simply used to make the driver of an offending car reduce speed long enough to enable the constable to secure the number of the car.

SUSTAINING EQUAL RIGHTS ON THE ROAD.

WORCESTER, MASS., June 28.—Judge Sherman, sitting in the Norfolk Superior Court, has ruled that automobiles have as much right in a roadway as carriages, and that chauffeurs are within their rights in sounding a warning horn. This decision was handed down in a suit for damages caused by a runaway horse that had been frightened by an automobile horn. Decision was in favor of the defendant and establishes a good precedent.

HARTFORD TO BAR MUFFLER CUT-OUT.

HARTFORD, CONN., July 6.—It is evident that the Hartford police will insist on the discontinuance of the use of the muffler cut-outs within the business sections at least. The mayor has circulated a warning among the autoists to abate the nuisance of "too much noise." The Automobile Club of Hartford has taken the matter up and will prosecute it vigorously.

WHERE BULLET PROOF TIRES ARE WANTED.

WASHINGTON, D. C., July 6.—Automobilists in this city are threatened with another warfare similar to that waged against them by Marshal Collins on the Conduit road. The latest aspirant for fame as an automobile baiter is Bailiff Hewitt, of Rockville, Md., who has been granted authority by the council of that town to disable the car of any automobilist who exceeds the speed limit of six miles an hour and who declines to halt at command. Bailiff Hewitt is reported to be a crack revolver shot, and has spread the news that in enforcing the town ordinance regulating the speed of automobiles he will not hesitate to fire at the tires of the machine if the driver fails to halt when commanded. There is a fine pike leading from Washington to Rockville, and it is used by hundreds of automobilists. Infractions of the Rockville speed law have been overlooked by the town authorities, and as a result some automobilists have come to the conclusion that they had a free rein when using the pike. The consequence is that many will suffer for the faults of a few. The Automobile Club of Washington will likely step into the breach and straighten out matters to the satisfaction of all concerned.

TAX, NOT TOLL, FOR MARYLANDERS.

BALTIMORE, July 6.—City Collector Frank Brown has expressed himself most emphatically in favor of an extra session of the legislature being called to pass suitable laws to check speeding of automobiles within the State. He declares the indifferent action of certain autoists does more to ruin the roads than anything else, and he does not think the State should spend any of the $5,000,000 at its command for improved highways until proper action is taken against speeding autoists. Ex-Governor Warfield and other influential Marylanders have expressed themselves as favorable to Governor Crothers' suggestion to tax autoists, and in this way have them help the good roads cause. They point out that on the new proposed State roads the autoists will not have to pay tolls as they have to do at present on the pikes. The tax would be a small item compared to the excessive tolls charged by turnpike companies.

BALTIMORE HAS "GASOLINE SQUAD."

BALTIMORE, MD., July 2.—The Baltimore Police Department has organized a motorcycle squad for duty along the smooth thoroughfares of the city. These streets have been used as speedways by a certain class of autoists, scaring horses and making it dangerous for pedestrians. The police believe that they will be better able to apprehend these law violators with the aid of motorcycles. The motor police of Druid Hill Park have done effective work, and this has led to the organization of the squad in the city.

MOTORCYCLISTS LICENSED IN SCRANTON.

SCRANTON, PA., July 2.—Hereafter motorcycles will have to be licensed before they can continue to "chug" through this city—that is, if the arrest of A. D. Beemer stands for anything. Beemer was arrested and hauled into police headquarters for motoring without a license. Sentence was suspended, and straightaway the remaining twenty-one motorcyclists took out licenses—also Beemer.

LOWER CANADA LEGAL HAPPENINGS.

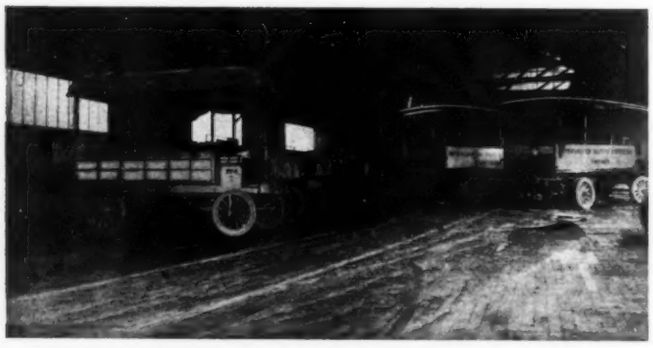
CHARLOTTETOWN, P. E. I., July 3.—As recently intimated in THE AUTOMOBILE, several automobile owners have made a test of the anti-automobile law by taking a previously announced spin around the city. Information was laid and the men were fined $500 and costs. Application to quash the conviction was made.

MOTOR EXPRESS MONEY MAKER.

OAKLAND, CAL., June 29.—The wonderful increase in the business of the Interurban Motor Express Company, of this city, since its organization in January, 1907, is due to the use of the modern motor truck, that has demonstrated in every way its superiority over the horse-drawn vehicle. What appeals to business men is the promptness with which business is handled, and the motor company has not been forced to reduce rates in order to secure patronage.

Because of the fact that so much of the freight from the East has to be handled here before being taken to a San Francisco destination, the Interurban Company has come into a vast amount of business. In order to overcome an extra handling of freight, the company has contracts with many of the large wholesale concerns across the bay, and after the loading of trucks here, the vehicle is run across on the ferry and the deliveries made. This business has increased to such proportions that the two large trucks devoted entirely to the trans-bay traffic are at times insufficient to care for it, and for that purpose trailers have been provided to keep up with the demand.

Aside from these large trucks, which are six-ton Americans, the company operates six two-ton Knox trucks. The company will receive six more cars during the summer, two of which are



Roomy Garage of the Oakland Auto Express Service.

five and a half-ton, while four are three and a half-ton electrics, built by the Auto Car Equipment Company, of Buffalo, N. Y.

F. P. Childs, the traffic manager has had a wide experience in the express business, having been for a number of years prior to the organization of the new company engaged in the business with horse-drawn vehicles. He can consequently speak with authority. He said, in discussing the motor business:

One of our small trucks can in a day's work make the same number of deliveries that four teams can, and at half the expense. That may probably not be the case throughout the United States, but it certainly is here in Oakland. Our smaller trucks cover Oakland, Berkeley, Almeda, Hayward and San Leandro. Throughout this entire territory the roads are perfectly level and macadamized, so there is probably no place in the country where trucks can be operated at a smaller expense than here. One of our smaller trucks has covered seventy-five miles in one day's work on ten gallons of gasoline. The excellent streets also minimize breakdowns, and our troubles in that respect are probably extremely low as compared with express companies of other cities.

Some of the leading business men of Oakland are interested in the company, which was organized with a capital stock of $160,000. The garage is used exclusively for the purposes of the company. It is equipped with a complete workshop and all facilities for the maintenance of the trucks.

MARYLAND'S BIG "GOOD ROADS" FUND.

BALTIMORE, July 3.—The Good Roads Commission has visited a number of Western Maryland towns recently. These visits and resultant meetings will take place in every section of the State before actual work on highway improvements begin. It is said that an additional appropriation will be added to the $5,000,000 already granted by the last legislature.

THE AUTOMOBILE CALENDAR.

AMERICAN.

Shows and Meetings.

Dec. 31-Jan. 7..—New York City, Grand Central Palace, Ninth Annual Automobile Show, conducted by the American Motor Car Manufacturers' Association, with Exhibits by the Importers' Automobile Salon, Inc., Alfred Reeves, general manager, 29 West 42d St.

Jan. 16-23.....—New York City, Madison Square Garden, Ninth Annual National Show of the Association of Licensed Automobile Manufacturers. Office of Secretary, 7 West 42d St., New York City.

February, 1909..—Chicago Coliseum and First Regiment Armory, Eighth Annual National Exhibition, National Association of Automobile Manufacturers. (Exact date to be announced.)

Races, Hill-climbs, etc.

July 11-15.....—Milwaukee, Wis., Wisconsin Trophy Run, Milwaukee Automobile Club.

July 15.....—St. Paul, Minn., Race Meet, Automobile Club of St. Paul, H. S. Johnson, Secretary.

Aug. 14.....—Chicago, Third Annual Algonquin Hill Climb, Chicago Motor Club.

Sept. 5-9.....—San Francisco-Los Angeles Reliability Run, Automobile Dealers' Association of San Francisco.

Sept. 14.....—Chicago, Annual Economy Run, Chicago Motor Club.

Oct. 24.....—Vanderbilt Cup Race, Long Island Course, auspices of Vanderbilt Cup Commission.

Nov. 26.....—Savannah, Ga., Grand Prize Race, Savannah Automobile Club.

FOREIGN.

Shows.

Oct. 11-18.....—Paris, International Congress and Public Exhibition on Roads and Road Making for Modern Locomotion, French Ministry of Public Works.

Nov. 28-Dec. 13—Paris, Eleventh Annual Salon de l'Automobile, Grand Palais, Automobile Club of France.

Races, Hill-climbs, etc.

July 13-17.....—Ostend, Belgium, International Race Week, Automobile Club of Ostend.

Aug. 12.....—Ardennes Circuit Races and Coupe de Liederkerke, Automobile Club of Belgium.

August.....—France, Coupe de la Presse, Automobile Club of France. (Exact date to be announced.)

Aug. 29-30.....—France, Mont Ventoux Hill Climb, Vauclusien Automobile Club.

Sept. 1-8.....—French Voiturette Contest, Auspices "L'Auto."

Sept. 6.....—Bologne, Italy, Florio Cup Race, Automobile Club of Bologne.

September.....—Paris, Vichy Aeroplane Competition, $4,000 Prizes, Aero Club of France.

Oct. 11.....—Berlin, Germany, Gordon-Bennett Balloon Race, Aeronautical Club of Berlin.

NEW BOOK FOR AUTOMOBILISTS.

Motor Rivals.—This is the latest work of fiction in which the automobile figures prominently. Percy F. Megargel, the transcontinental automobilist, and Grace Sartwill Mason, short story writer, have collaborated in the production, which is being brought out by the Baker & Taylor Company, New York. "Motor Rivals" is a delightfully entertaining novel, based on an automobile race from New York to Portland, Ore.—a route twice covered by Megargel. It treats vividly of various incidents of a trip, shows the usual viscissitudes, and tells how difficulties were overcome far away from civilization and the repair shop, and as the author, or at least one of them, has been through all the experiences himself, he is in an excellent position to tell them interestingly.

For those who are not particularly interested in automobiling, and even some who are, a strong love story is interwoven throughout the race. The race itself is between a medium-power car of American build and a large foreign car of much greater horsepower. The book will be out July 25. The story promises to be a great success.

Tour Days in by Autoist in the Scottish Reliability Trials

GLASGOW, June 19.—For the first time for over a week fine weather has signalized to-day's run of 130 miles from Oben, which completes the Scottish portion of the combined trials. To-morrow a start will be made on the journey southwards, ending with a 200-mile race at Brooklands next Friday, but only half the cars will be seen on the road, and thereby hangs a tale.

The requirements of the British trade and buying public alike have hitherto been well served by the searching reliability trials held each year by the Scottish and Irish clubs, and the number of entries—there were 108 for the last Scottish event—have shown the satisfactory nature of the test and of the system of marking. This year the Royal Automobile Club determined to organize a trial which would altogether eclipse the doings of its affiliated clubs, and the present 2,000-mile event is the outcome. The system of marking is novel, but it has yet to be proved superior to the older method, which took into separate account the three factors of reliability, fuel consumption and hill-climbing power. In the present case the Royal Automobile Club has taken the 2,000 miles of road traveling as a preliminary to the final 200 miles race at Brooklands, and the method of marking determines the handicap at the start of the race. Each stop of one minute on the road means one minute's handicap in the race; similarly with the petrol used, each gallon is counted as one minute's delay. In the hill climbs, which total in all to a distance of 22 miles, the penalty for each car is fixed by the number of minutes it is behind the fastest car in its class. The main advantages of such a system as this lie in its simplicity and in the fact that the first car in each class to pass the finishing line will be the winner. Opposed to this, however, is the possibility of an unreliable car going through the trial with constant repairs and tinkering, and on the track proving victorious by virtue of being hopelessly overgeared and by having an extra fourth speed in reserve, which would give it a great advantage.

The popularity of the event can best be judged by the number of starters, 46, while for the Scottish trial, which, although combined with the 2,000-mile event, can be entered for separately, no less than 84 cars set out.

Owing to the absence of the Fords, which would have to compete in a class altogether disproportionate to their price, the number of American entries were but three—a Cadillac and two White steamers.

On Thursday, June 11, the start was made from London, the new White steamer depot and repair works at Camden Town being the official rendezvous. In three daily stages of 150 miles the cars were driven to Glasgow by Saturday night. Excepting the awful weather conditions, this first portion of the tour was singularly uneventful. Mention might be made of the 10-horsepower Zedel, which had been turned out from its German birthplace without a key being fitted to the small differential driving pinion. For over eleven hours the driver and mechanic worked in the rain and finally made a new key out of a spanner, the car continuing the trial as if nothing had happened.

On Monday the route planned by the Scottish Club took the cars through Blairgowne to Aberdeen. The severer nature of the country began to tell its tale, and a trouble frequently in evidence was the overgearing, which had been done to give a good showing in the race at Brooklands. In the afternoon the cars were timed on the Devil's Elbow climb at Glenshee, the highest road in the kingdom, and here the most unusual sight was to be witnessed of a score of well-known cars, of powers up to

Making the Turn at Devil's Elbow, Glenshee.

30-horsepower, having to shed their passengers and to invoke outside assistance. When starting from the line at this event the drivers of the 30-horsepower White tried to get away too quickly and stripped one of the pinions on the rear axle, causing the withdrawal of this car.

Tuesday's run to Inverness included the dreaded Cavin O'Mount, by far the worst climb of the whole tour. On this narrow road the occasional failures blocked the way to all the succeeding cars, and the resulting chaos delayed the arrival of the last cars at the stopping place till after midnight. These delays have also been responsible for the withholding of the official reports till the end of this week, so that it is impossible at present to give any indication of the relative performances of the leading cars.

SOME RECENT BRITISH AUTO DOINGS.

London, June 29.—The past few weeks have been full of activity in the motor world. The Irish Reliability Trials just recently completed are now eclipsed by the more elaborate 2,000-mile event of the Royal Automobile Club, which, to the general mystification of competitors, trade, and public alike, is run conjointly with the Scottish Trials. More concerning this elsewhere; sufficient is it to refer to these events, to the Brooklands meets and to the constant succession of hill-climbs and speed trials to show the sudden accession of vitality which is characterizing the trade at present.

And, speaking of trade, it is pleasant to be able to report that this is strongly on the advance. Britain did not escape the universal slump which has overtaken the motor trade of the world during the past half year, but, fortunately, the effects were not so pronounced as in France or Italy, due, doubtless to the small car trade which the British manufacturer has so well developed and fostered. Not a few firms have disappeared from sight during the period of depression, and more especially so with the agencies for foreign and American cars.

A pair of American cars which go well with the public on this side are the Cadillac and the Ford. The former is noted for its reliability and has a fine record covering all the trials of note during the past three years. This car scored well by the success of the unique standardization test to which it was recently subjected by the Royal Automobile Club committee and which was referred to in these pages at the time. No less remarkable have been the victories of the 15-horsepower Ford. At the commencement of the season two press men visited the London showrooms of the agents and selected at random two cars to be run in all the coming competitions. In their first event at Brooklands the pair ran second and third; next time it was first and second; several hill-climbs have brought them out with fastest times, and finally a gold medal was awarded to No. 1 in the recent Irish trials. The second car did a fine performance up hill the last day of the same event, when some slight carbureter derangement spoiled its record. Unfortunately these two cars are not running in the 2,000-mile trials, as they cannot be entered except in a class which contains cars of over double price, but it will be interesting to follow the fortunes of the pair throughout the rest of the season.

It is generally supposed that motorcycling is a sport which has not acquired much popularity in the States, but in any case news of a recent big event of the London Motor Cycling Club cannot be without interest. Each year this parent club runs off a trial from London to Edinburgh, the 400 miles between the two capitals having to be covered in between 20 and 24 hours. Granted that the roads are for the most part in excellent condition, the length of the run, together with the time limit, gives it special merit. No less than 106 entered and started, added to which were a dozen cars owned by members of the club, who have now forsaken the single track machine.

In spite of the unfavorable weather, no less than 74 of the motorcyclists finished within schedule time. After a day's rest, twelve of these set out again on the return journey to compete for the Schulte Cup, offered for the greatest speed regularity over the 800 miles total trip. Of the twelve, but two failed to reach London within schedule time. An event of this description not only well demonstrates the extraordinary reliability of the modern motorcycle, but also serves to show the great popularity of this type of machine. It is estimated from official figures that the number of motorcycles in use in the United Kingdom is well over 50,000 at the present time, and this total is increasing at an extremely rapid rate.

NUMEROUS ROUND-THE-WORLD DRIVERS IN PARIS

PARIS, June 30.—Though the Round-the-World contestants have not yet finished their trip, a curious combination of circumstances brought many of them together a few days ago in Paris. Montague Roberts, who started on the Thomas Flyer from New York last February, but was withdrawn for the Briarcliff and Grand Prix races, accidentally met the De Dion team while on a brief run up to the capital. M. Autran, who had had charge of the mechanical end of the De Dion car, explained that he had just come in from Vladivostock, by order of the factory.

"Before I left the car," declared Autran, "I turned all our gasoline over to the Thomas car. It is true, as reported by cable, that St. Chaffray sought to corner the gasoline supply of the town in order to command a seat on the Thomas car, but as I had no further interest in the race, the factory having recalled me, I gave up all our fuel to the American."

There are not many kind words in Paris and at the De Dion factory for St. Chaffray, who at the start was so much in the public eye and figured as the mainspring of the trip. According to the statements of the De Dion engineer it was the inexperience and ignorance of the *Matin* delegate that prevented the De Dion car from making a better showing. "St. Chaffray was only capable of driving an automobile under the most favorable conditions. Every time he took the wheel on the bad roads of America he ditched the car. By driving over a steep embankment he broke the frame of the car, and on two occasions unskilful handling was responsible for the breakage of the driving shaft."

On arriving at Vladivostock the De Dion car was sold and is now in the hands of a private owner in Japan.

As if to show that there was no animosity for the beating they had received in the Round-the-World trip, the De Dion officials received Montague Roberts heartily at the factory, conducted him over the huge works and finally presented him to the Marquis de Dion, head of the firm of De Dion, Bouton & Cie., who congratulated the young American driver on his plucky driving in the initial stages of the long trip when it was far from certain that any of the cars would finish.

PARIS SALON WILL THIS YEAR BE TWO SHOWS

PARIS, July 1.—After the lavish pyrotechnic display of the tenth annual automobile salon, Paris is to have an economical era, the first signs of which are to be found in the decision taken this week by the organizing committee to abandon the huge temporary hall on the Esplanade des Invalides. This year there will be two Paris salons, the first one opening on Saturday, November 28, and closing on Sunday evening, December 13, and the second one keeping open its doors from December 22 to December 29. Both exhibitions will be held in the Grand Palais on the Champs Elysées, the initial event being for all kinds of pleasure vehicles, accessories, motorcycles and bicycles. The second show will comprise all classes of commercial automobiles, machine tools, etc., and will close the Paris auto year.

For several years past it has been the custom to hold the Paris automobile show in two distinct buildings, the Grand Palais taking the pleasure cars and some other building the commercial section. As the industrial vehicle grew in importance the greenhouses on the banks of the Seine became too cramped to accommodate the annex, with the result that for 1906 special permission was obtained from the city of Paris to erect a temporary building on the Esplanade des Invalides. The same was done last year, the temporary hall, erected at great cost and pulled down immediately after the show, having a floor area exceeding that of the Grand Palais itself.

It was an expensive matter to put up a temporary hall three times the size of Madison Square Garden, as exhibitors found to their cost. It entailed also the providing of two sets of decorations for those firms, now numerous, who make both pleasure and commercial vehicles; those who have seen the Paris show know how costly the decorations have been in every case.

This year, while there will not be much diminution in the general scale of decorations provided by the organizing committee, exhibitors are recommended to spend less on their stands than they have done in the past, a recommendation that appears likely to be followed. Those firms who are exhibiting at both shows will naturally be able to retain the same decorations for the two events, there being an interval of but eight days between the closing of the pleasure car and the opening of the industrial vehicle show that is scheduled to follow it.

Abuses in connection with the season and press passes are to be brought to an end. In the past free passes have been distributed generously on the opening and popular days of the show. Employees of exhibiting firms are known to have gathered together the greatest number of free passes, and either given them or sold them to their friends. There are quite a number of Parisians, too, who, rather than pay a modest franc for admission, have put in an application for a press ticket, declaring that they were connected with some foreign journal. Such practices will be stopped next year, all passes being made personal, and all members of the press being called upon to prove their journalistic connection before being allowed to take out a card, so that this source of loss will go.

FRANCE RESOLVES TO HAVE A BIG AUTODROME

PARIS, June 30.—Auvergne is resolved to have the first autodrome in France, or, as they prefer to call it here, the closed racing circuit. Immediately after the Gordon-Bennett race of 1905 the mountainous course in Auvergne was proposed as a permanent racecourse, but owing to financial difficulties and the disinclination to give any one region the monopoly of automobile races the matter was not pushed forward by the A. C. F.

For the last three years the Automobile Club of Auvergne has boomed the scheme of a racecourse around the Puy du Dome, and has further studied the financial question. This week the local club invited the Automobile Club of France to the district in order to convince the national body of the practicability of the scheme and to give them an idea of the interest of the neighborhood in a motor racecourse. The Competition Committee, with Marquis de Dion at its head, accepted the invitation, traveled down to Clermont-Ferrand by special train, were taken up to the summit of the mountain by a special local and shown the proposed road on the way, a beautiful view being had.

From the summit of the mountain, 4,800 feet above sea level, a magnificent panorama unrolls itself in every direction. The road which it is intended to use as a motor course runs around the face of the mountain, and is almost all visible from the summit. A small portion of the projected course is the highway on which the Gordon-Bennett race was held in 1905. Though all roads are made and in excellent condition, a considerable amount will have to be expended in barricading them, lighting, and generally fitting for fast automobile work. Clermont-Ferrand, best known to automobilists as the home of Michelin and other tire factories, is at the foot of the mountain and within a short distance are a string of holiday resorts. If the project is accepted by the Automobile Club of France the land within the course will be fitted up for other sports, including cycling, aeronautics and athletic games. One of the objections made to the Auvergne course is its distance from Paris. As the majority of the automobile factories are located around the capital, before any use could be made of the course as a testing ground it would be necessary for cars to make a journey of about 240 miles, which manufacturers naturally consider excessive.

PREPARING FOR WORLD'S ROAD CONFAB.

PARIS, July 1.—Preparations are now well advanced for the international road conference which the French Government will hold in Paris on October 11 and the seven following days. It has been decided during the week of the conference to hold a public exhibition in the Tuileries Gardens showing samples of road, tools and machinery for road making, road signs, etc.—in a word, everything relating to the construction and upkeep of urban and rural highways. Minister of Public Works Barthou has recently taken the further decision to invite all nations to a second conference to run concurrently with the first, at which the question of international road regulations, and more particularly the problem of facilitating international communication, will be discussed at considerable length.

FAMOUS PARIS AUTO AGENT RETIRES.

PARIS, July 1.—C. L. Charley, who is well known both in Europe and the United States as the selling agent of the Mercedes Company, has now severed all connection with the automobile trade. A few months ago Mr. Charley retired from the management of the Mercedes selling house in the Champs-Elysées, Paris, and has this week made a deal with Harvey DuCros, of London, who takes over the remaining stock of the Mercedes chassis, for which the Paris dealer had contracted. At one time M. Charley was a power in the automobile trade abroad, and at the same time he was doubtless the chief moving power in the introduction of the German-made car in the United States, where, through his efforts, it achieved a reputation in a very short time, quite a large number being sold.

THE AUTOMOBILE

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REMOVAL NOTICE.

The Class Journal Company, publishers of "The Automobile," "The Automobile Blue Book," "The Automobile Trade Directory," etc., has removed its publication offices to the Thirty-ninth street building, Nos. 231-241 West Thirty-ninth street, New York City, from the Flatiron building, where the offices have been located for the past five years.

The rapid increase in the company's general business has made it necessary to enlarge its facilities, and the entire sixth floor of the new building is devoted to its present requirements.

A cordial invitation to our patrons is extended to visit our new offices, where every courtesy will be extended.

New York patrons are requested to make special note of the new telephone number, 2046-Bryant. It is not listed correctly in the New York telephone directory.

THE CLASS JOURNAL COMPANY,
231-241 West Thirty-ninth street,
New York.

PROGRESS OF THE GOOD ROADS MOVEMENT.

It goes without saying that the Good Roads and Legislative Convention, now being held in Buffalo, will accomplish more to awaken public sentiment generally to the crying need for highway improvement in this country than any single step that has been taken in this direction up to the present. It is the culmination of a number of years of struggling toward the goal for which not alone the autoist, but the farmer, the suburbanite and the city dweller also are bound, for there is no one who is not influenced by the solution of the good roads problem. But while it marks the end of a long struggle, it is only the beginning of a far greater campaign that must be carried on relentlessly for a number of years before the results growing out of the preliminary work can accrue. The good roads advocates have won out in the battle for recognition from State and local authorities, and in the meantime a great deal of actual improvement work has been carried out, but when compared with the hundreds of thousands of miles of roads in the East alone, it must be realized that the task has only been begun.

There is yet a vast educational campaign to be carried on, and here the Buffalo convention is starting the entering wedge, as the practical demonstrations there carried out are on a larger scale than anything of the kind previously attempted. In fact, they represent the most comprehensive showing of methods of road building that has ever been undertaken. Before we can have an extensive system of good roads people who do not know the meaning of the term must be shown how to construct them—not so that they will need rebuilding a few years hence, but so that once in place, with the proper maintenance, they will last for all time. And here again is a vast branch of the subject, road maintenance, on which the demonstrations at the convention should have a very perceptible effect. No matter how well a road is constructed, if it be not properly cared for, its life must necessarily be short, and it is consequently of equally great importance not alone that people be taught how to build good roads, but also how to take care of them. Last but not least, the results of the convention will be felt in the increased sentiment for uniform legislation, for which the A. A. A. is consistently working. There cannot be the slightest doubt that the convention will become an annual fixture henceforth, and that through it the American Automobile Association will be enabled to accomplish many times the good it has done in similar lines heretofore.

* * *

PRESENT TREND OF IGNITION PRACTISE.

Five years ago the magneto was already a well-established part of the equipment of the average foreign car, but it was practically unknown on automobiles built on this side of the Atlantic. European designers had found it simple, practical and dependable to a much greater degree than was the case with the coil and battery system, but as a general rule the American maker would have none of it. Beneath the more or less general prejudice manifested against it, there was the further disadvantage of greatly increased initial cost, whether the high or low-tension system was adopted, and this seemed to militate against it to a greater extent than anything else.

In the past two years there has been an almost complete reversion of feeling on the subject. The American designer has found himself compelled to give the magneto its due, and it seems safe to predict that, within a year or two there will scarcely be a car built that is not thus fitted. The next step is the entire elimination of the battery and coil system, and it is one that Continental builders of light cars have taken some time since, many of the small French cars in particular relying entirely upon a magneto for ignition. An emergency system is always welcome on the car, but where it is a matter of initial cost there appears to be no reason why the magneto should not be the one system selected.

A. A. A. CONVENTION SPLENDIDLY SUCCESSFUL

BUFFALO, July 7.—The first Legislative and Good Roads Convention of the American Automobile Association was called to order by President Hotchkiss at 10 o'clock this morning in Concert Hall, in the Teck Theater Building. Mr. Hotchkiss spoke briefly in welcoming the delegates, and closed by reading an extract from an address of President Roosevelt, delivered at the International Good Roads Congress in 1903, and which had been sent to Mr. Hotchkiss by the President.

Mayor Adam delivered the keys of the city to the convention in an address, in which he paid due tribute to this great city of Northwestern New York, and then spoke briefly of this great work of making bad roads into smooth and beautiful highways. He said, in part:

> Speed is a superfluity. Good roads are a necessity. Success in obtaining good roads must rest upon the character of the road to success, I mean the roads of fairness, justice, perseverance and co-operation. These are the highways that lead to ideal good roads, not for the automobility alone, not for the man with the six-sixty, but also for the man with the hand cart. The users of roads must be kindly considerate one to another. It should not be a capital crime for a chicken to desire to cross a road. Who knows but deliberate cows are sent especially to test alike our patience and our emergency brake. Gentlemen, you will get the fullest measure of your rights by observing in the fullest measure the rights of others. Let us have cooperation, let the cities work with the towns, the automobilist with the farmer, the cyclist with the pedestrian, all working together for good roads. Then, instead of pleasure being a bubble, a bubble will be a pleasure.

The convention then went into legislative session, in charge of Charles Thaddeus Terry. In opening this session, Mr. Terry took occasion to criticize sharply existing motor vehicle laws. He characterized them as "intolerable" and "ridiculous." "Intolerable," said Mr. Terry, "because they retard the progress and development of the automobile and greatly lessens its usefulness. Ridiculous because it is hard to conceive how, within the confines of one nation, so many legislative bodies, supposedly made up of the leading men of the Commonwealths, could enact provisions of law on the same subject so divergent and contradictory, and at the same time absolutely without apparent purpose, except to harass and restrict a certain class of citizens."

The first address, "Federal Automobile Legislation," by Hon. W. W. Cocks, Congressman from New York, held special interest, inasmuch as the Congressman introduced a bill, killed in committee, but which it is confidently expected will pass at the next session at a time when automobile interests will have gathered sufficient strength to see it through.

"The Constitutionality of Federal Automobile Legislation" was next discussed by the Hon. Neil Brown, president of the Wisconsin State Automobile Association.

Following W. C. Crosby, chairman of the legislative committee of the Associated Automobile Clubs of New Jersey, gave his hearers food for thought in his comments upon "Unreasonable State Legislation." This address was well seconded by Walter S. Schutz, counsel for the Connecticut State Automobile Association. Mr. Schutz discussed "Uniform State Automobile Legislation," and brought out its advantages.

The open session, under two-minute rule, developed an animated discussion of the subjects touched on by the speakers.

What Was Done at the Afternoon Session.

This was called the First Good Roads session, held in charge of Robert P. Hooper, chairman of the A. A. A. Good Roads Board. He told of the progress made in securing favorable laws, and expressed the belief that in a few years it would be possible to motor from Boston to San Francisco along improved highways. The following delivered addresses:

James H. McDonald, State Highway Commissioner of Connecticut, and president of the American Road Makers' Association, sounded the keynote of the convention in his address on "Good Roads." Mr. McDonald argued strongly for a system of national highways, built and maintained by the national government, as is commonly done on the Continent.

Frederick Skene, State Engineer and Surveyor of New York, was scheduled for the next period to talk on "The History and Development of State Highways." Mr. Skene was unable to be present, but his paper was read by Deputy State Engineer Frank L. Getman. This paper was of the nature of an historical sketch of the road system of New York. Prior to 1898 the State had taken no steps toward a systematic improvement of its highways by means of State aid. Between 1898 and 1903, the average cost per mile of improved roads was $7,000. Since that time, owing to the increased width and depth of roads and advance in the price of labor and material, the cost has been $9,000 a mile.

Charles J. Glidden, famous automobile globe-circler, took his hearers along for "Seven Minutes on the Roads of the World," in his usual entertaining manner.

"Drainage and Sub-base of Improved Roads" was treated in masterly style by Horatio S. Earle, State Highway Commissioner of Michigan.

Joseph W. Hunter, State Highway Commissioner of Pennsylvania, told the convention of the "Road Improvements in Pennsylvania," a State that in sections challenges the highest skill and genius of the road builder.

"Road Problems in the State of Illinois" was discussed by A. N. Johnson, State Engineer of Illinois.

L. W. Page, chief of the Bureau of Highways, in the Department of Agriculture, Washington, spoke of "The Effect of Automobiles on Macadam Roads." He showed by illustrations how rapidly moving cars raise dust and loosen small particles of the roadway.

The remainder of the afternoon session was taken up by speakers, who spoke as follows: "Road Problems for Automobilists," by R. D. Beman, Deputy State Highway Commissioner of Pennsylvania; "Maintenance of Improved Highways," by James E. Owen, of the Newark (N. J.) Board of Trade; "The Lincoln Way," by Robert B. Caverly, president of the Automobile Club of Washington, D. C., and "Good Roads and Their Benefits," by William L. Raeder, president of the Board of Trade of Wilkes-Barre, Pa.

To-morrow's session promises to be one of unusual interest, and after its close a banquet will be given at the Hotel Iroquois to the invited guests. The program for Wednesday's session is as follows:

10:00 A. M. Second Good Roads Session—In charge of Chairman Hooper.

10:05 A. M. Reports of Committees and action thereon.

ADDRESSES.

"Federal Appropriations for Road Improvement"—Ex-Governor N. J. Batchelder of New Hampshire, Master of the National Grange.

"New York's Highway Code"—Senator Jotham P. Allds, of New York.

"The New Roads Era in Ontario"—A. W. Campbell, Deputy Minister of Public Works, Province of Ontario.

"The Call for Good Roads and the Propriety and Need of Federal Aid"—F. A. Derthick, Master of the Ohio State Grange.

"Special Road Construction"—A. R. Pardington, of New York, General Manager of the Long Island Motor Parkway.

"The Highways of Massachusetts"—Harold Parker, Chairman Massachusetts Highway Commissioners.

"Improvement of Town Roads"—Stephen Ryan, State Road Director in New York.

"Good Roads and Automobiling from the Farmer's Standpoint"—F. N. Godfrey, Master of the New York State Grange.

"Treatment of the Earth Roads."—D. Ward King, of the Missouri State Board of Agriculture.

"Road Problems of the Pacific Coast"—James W. Abbott, of Nevada, late U. S. Highway Commissioner for the Rocky Mountain and Pacific Coast States.

12:30 P. M. Open Session—Under the two minute rule.

1:00 P. M. Adjournment sine die.

2:30 P. M. Practical Demonstrations on the Williamsville, Transit and Clinton Street roads by automobiles, furnished by the Automobile Club of Buffalo to be taken at the Hotel Iroquois.

The racing war comes up for much discussion in this gathering of automobilists from all over the country. The pretensions of the New York club to control the sport of racing in this country are generally laughted at. No one seems to care a cent what action the European clubs take.

How the Delegates Gathered at Buffalo.

BUFFALO, July 6.—Delegates to the Legislative and the Good Roads Convention of the American Automobile Association began to make their appearance Sunday, and to-day they are pouring into the city by railroad, steamship, automobile, and trolley. Buffalo is on the eve of the greatest convention of its kind in history, and Buffalo is rising to the occasion with her accustomed vigorous hospitality.

Those arriving are registered promptly at the headquarters of the A. A. A. at the Iroquois Hotel, by Secretary Frederick H. Elliott and his staff of assistants. Those arriving by train and steamship are met at station or docks by members of the reception committee in automobiles and taken to their hotels. Badges and booklets containing the program of the convention and coupon tickets for the various entertainments planned by the entertainment committee are distributed among the visitors as they are registered. The Ellicott Club and Country Club have extended their hospitality to members of the convention while in the city. John L. Clawson is chairman of the entertainment committee and A. H. Knoll chairman of the reception committee in charge of the entertainment of the delegates and visitirs.

Prominent among the first arrivals were: James W. Abbott, of Nevada, United States Highway Commissioner of the Rocky Mountain and Pacific Coast States; Joseph W. Hunter, Highway Commissioner of Pennsylvania, and Stephen Ryan, State Road Director of New York, and H. M. Swetland, of THE AUTOMOBILE. Accompanied by County Engineer George C. Diehl, chairman of the committee on practical demonstrations, they have already inspected the various exhibits of road construction and dust prevention just outside the city.

Robert P. Hooper, of Philadelphia, chairman of the Good Roads Board of the A. A. A., and U. S. Dandurand, vice-president of the Automobile Club of Canada, are also here to attend the convention.

Not only delegates, but visitors as well, have motored to the convention. More than fifty cars have arrived from points in Pennsylvania and Ohio, while touring parties from East and South are coming into the city in large numbers.

The city is a flame of color. Flags and bunting hang everywhere in honor of the thousands of visitors, and while the national colors predominate, the A. A. A. flags, emblazoned with the convention name, proclaim everywhere the object of the gathering. Every automobile in the city carries these pennants.

Three hundred cars will be required on Thursday to convey delegates and guests attending the good roads convention to different points in and near this city, when exhibitions of modern road making and demonstrations of dust-laying methods will consume several hours of the convention's time. As noted on the program, this outdoor feature is a stated part of the convention proper, and it bids fair to be one of the most instructive periods, notwithstanding the intense heat.

Cars will start from headquarters at the Iroquois, transporting the delegates by a long and devious route to, successively: a dust alleviation experiment; a road machine exhibit, showing improved types of apparatii used in the construction and maintenance of good highways; a tarvia treated highway; a Kentucky rock asphalt section; practical demonstrations of vitoviaby road building (one mile being treated); a mile of highway treated with asphaltolene; a section of macadam construction, and as a windup an inspection of a brick country road now under construction.

George C. Diehl, chairman of the committee on practical road demonstration, prepared his part of the program with all attention to detail, and the outdoor session of the convention proved a source of practical education to every motorist and highway commissioner in attendance.

Chairman Diehl laid his plans with care, and through various channels succeeded in developing live interest in over 900 towns in the State by urging the attendance of representative supervisors, town clerks, and justices of the peace. In doing this he outlined the scope and objects of the convention. The crowd of visitors attest the success attendant upon his efforts.

The United States Government is represented by Logan Waller Page, director of the Offices of National Public Roads. Mr. Page was educated in engineering work as applied to roads in Harvard University and later in French colleges.

Governor Hughes has appointed the following delegates to represent the State of New York at the convention: Senators Jotham P. Allds, Henry Hill, George A. Davis, William H. Hotchkiss, and Arthur Warren. This is an emphatic recognition and endorsement of the Good Roads Convention accorded by the state through the presence of its representatives. Other delegates and members of the convention who have arrived are:

E. L. Powers, New York, secretary of the American Road Makers' Association; Will S. Blair, Indianapolis, secretary of the N. P. Manufacturers' Association, appointed as delegate by Governor Hanley of Indiana; Fred N. Root, Kalamazoo, Mich.; Curtis Hill, Columbia, Mo., State Highway Engineer; Pike Campbell, Louisville, Ky., Louisville Automobile Club; Roy F. Britton, St. Louis, treasurer Missouri State Automobile Association; L. M. Bradley, New York, manager publicity department, American Motor Car Manufacturers' Association; W. H. Chase, Boston, chairman Good Roads Commission, Massachusetts State Automobile Association; Mark Aitken; A. E. Lerch; and H. E. Marsh, Springfield, Mass., Automobile Club of Springfield; W. H. Heath, Adam Byerly, J. B. Billick, Greenock, Pa.; James C. Wonders, State Highway Department, Ohio; D. W. Seitz, Columbus, O.; Senator J. P. Allds; James T. Drought, secretary Milwaukee Automobile Club and secretary Wisconsin State Automobile Association; Neal Brown, president Wisconsin State Automobile Association; Frank E. Bogardus, New York, County Engineer; L. W. Page, ,Washington, D. C.; Mrs. J. H. MacDonald and daughter, Hartford, Conn.; Robert P. Hooper, Philadelphia, chairman of the Good Roads Board of the A. A. A.; S. Boyer Davis, Philadelphia; Frank G. Webb, Brooklyn; Alfred Wilmarth, Brooklyn; George B. Baird and L. H. Townsend, Oneonta, N. Y.; W. H. Hager, Cleveland; Frederick H. Huston, Columbus, O.; Arthur L. Stark, Elyria, O.; Asa Goddard, Cleveland; W. C. Thoma, Pittsburg; Dr. E. C. Wagner, Wilkes-Barre, Pa.; Frank H. Nutt, Kokomo, Ind.; Crow Cooley, Minneapolis; C. Gordon Neff, Cincinnati, O.; Charles P. Price, Malden, Mass.; John R. Rablin, Boston; Lynn White, Chicago; William J. Donnelly, S. D. Bartlett, Edwin H. Lewis and L. E. French of the Quaker City Motor Club, Philadelphia; John P. Coghlin, Worcester, Mass.; A. D. Converse, Wincheden, Mass.; and John S. G. Demont, Bryn Mawr, Pa.

President Hotchkiss Emphasizes Convention's Importance.

That this good roads movement is close to the hearts of automobile owners is demonstrated by the presence of delegates from nearly one hundred automobile clubs; also by the important places assigned on the program to men high in the councils of state automobile associations. President Hotchkiss, of the American Automobile Association, said in conversation with several newspaper men:

"It is particularly noticeable that in this convention—which was originally called by the American Automobile Association—are cooperating the National Grange, which at present, with the backing of a million members, is advocating a fifty-million-dollar appropriation from the federal government, through the Currier Bill, and the American Roadmakers' Association, which, representing, as it does, the state highway commissioners and engineers, as well as a very large number of road experts throughout the country, is particularly interested in securing state aid for good roads.

"Thus, the three great bodies which are most vitally interested in the good roads movement are meeting together at Buffalo, and their meeting will doubtless result in some sort of an understanding that will lead to similar conventions annually, growing larger and more important, until practically all of the states and the federal government are actively at work, through appropriation, plan and actual construction, in building good roads. Already the city of Cincinnati, through its Convention League, has taken action urging that the next gathering be held in that city."

BUFFALO, July 7.—On this, the eve of the fifth annual contest of the American Automobile Association for the Glidden trophy, the usual condition of excitement reigns; competitors are hourly arriving from the dozen or more factories represented in the list of contestants. Press representatives from the different metropolitan journals are reaching the city on every incoming train, representatives from the several American tire factories have already arrived, and, in short, from all sections of the land are special envoys, representatives of the different phases and departments of the motor industry, all going to swell the great caravan that will, from July 9 to 23, meander its way over 1,670 miles of New England roads under the name of the Fifth Annual Reliability Tour of the A. A. A.

A mile down Main street from the Iroquois Hotel is the Teck Theater Building, on the second floor of which are located the different managers to whom the contestants will look for the successful conduct of the contest. Chairman Frank B. Hower, of the A. A. A. Touring Board, in shirt sleeves, superintends the entire situation; Dai H. Lewis is the *route à confetti* encyclopedia; E. L. Ferguson is busied with the final arrangement of the entries, as well as bringing together the data and forms necessary for the daily dispatch and reception of the cars; Mortimer Reeves has his hands full with the rôle of assistant pilot duties, coupled with those of nightly garaging or parking the cars; F. D. Stadham, chief of the observer brigade, is rapidly perfecting his outline plan for the placing of impartial observers on the cars each day, as well as the permutating of them so that no observer rides on the same make of car, or on a car of the same team, or on a car handled by the same firm as nominated him; H. D. Herr is busied with the hotel accommodations, which include the systematizing of the work under Cook control, as well as the explaining of it to the different competitors; Arthur N. Jervis, the publicity end, is playing the rôle of a complete press room; Nathan Lazarnick, the official photographer, has everything necessary in the line of plates and films; Messrs. Conklin and Carroll, the night watchers, have had their instructions and David E. Hoag, the official physician of the route, has all his plans perfected. It only remains for the cars, drivers and observers to do their parts during the long twelve days of the drive.

Numbers Not So Great—Conditions More Strenuous.

Statistically considered, the Glidden-Hower Tours are not so big as a year ago, but the loss in numbers is more than compensated for because of the fact that those cars entering have done so in spite of the $200 entry fee, in spite of the fact that impartial observers will be carried on each car, and also despite the fact that this year's tour leads through a generally mountainous and hilly district, the roads through which are largely composed of clay and gravel, which, if weather conditions are favorable, will make easy going, but if rains are frequent will result in the hardest kind of work for the contestants. Already twenty-seven Glidden Trophy cars are waiting to be dispatched by Ferguson Thursday morning, all of which will compete in clubs for the Glidden Trophy, the twenty-seven being divided among nine clubs, three cars constituting a team, the division being as follows:

Automobile Club of Buffalo, 1st team:
Car No. 1, Pierce Arrow, Charles Clifton.
Car No. 2, Pierce Arrow, Charles Clifton.
Car No. 3, Pierce Arrow, James McGuire.

Automobile Club of Buffalo, 2d team:
No. 4, Reo, R. M. Owen.
No. 8, Premier, R. M. Owen.
No. 9, Premier, H. O. Smith.

Columbus Automobile Club:
No. 5, Peerless, E. H. Parkhurst.
No. 6, Peerless, E. H. Parkhurst.
No. 7, Peerless, E. H. Parkhurst.

Rochester Automobile Club, 1st team:
No. 10, Gaeth, Paul Gaeth.
No. 11, Thomas, Gus G. Buse.
No. 32, Selden, R. H. Solomons.

Rochester Automobile Club, 2d team:
No. 24, Studebaker, E. V. Stratton.
No. 25, Studebaker, E. V. Stratton.
No. 26, Studebaker, E. V. Stratton.

Automobile Club of Syracuse:
No. 12, Franklin, H. H. Franklin.
No. 13, Franklin, John Wilkinson.
No. 14, Franklin, F. H. Stillwell.

Chicago Motor Club:
No. 19, Haynes, Frank H. Nutt.
No. 20, Haynes, Loring Wagoner.
No. 35, Oldsmobile, F. O. Smith.

Bay State Automobile Association:
No. 21, Marmon, Frank E. Wing.
No. 22, Marmon, W. C. Marmon.
No. 23, Marmon, W. C. Marmon.

Cleveland Automobile Club:
No. 29, Garford, A. R. Davis.
No. 30, Garford, A. R. Davis.
No. 31, Garford, A. R. Davis.

It is up to these nine teams to fight out the contest as to which shall be the proud possessor of the Glidden Trophy for the 1908-1909 season. It is apparent from the status of these nine teams that the winner for 1908 will be more of a factory than motor club proposition. Of the nine teams six represent as many individual factories, the makers having this representation being Pierce, Peerless, Studebaker, Franklin, Marmon and Garford. The three mixed teams are the Haynes and Oldsmobile combination in the Chicago Motor Club, the Selden-Gaeth-Thomas combination constituting one of the Rochester clubs, and the two-to-one Premier-Reo team forming the second Buffalo club. Two automobile clubs, namely, the Buffalo and Rochester, have entered two teams, whereas a year ago the Buffalo club entered but one team, which was a combination of varied factory interests. It is expected on every hand that this one factory team situation will add greatly to the interest in the tour, and should one of these teams win it the factory can stand on the ground that its car won the Glidden Trophy, which was an impossibility under the conditions of a year ago. On the other hand, with the three remaining clubs that have mixed teams a different situation rules. Should the combination Rochester team win, Selden, Gaeth and Thomas will each have a third interest in the big trophy; if the Chicago Motor Club carries the winning colors, Haynes and Oldsmobile will divide on a two-third and one-third basis, and should the second Buffalo team be the final winner, R. N. Owen, the entrant of two cars, will have to look after the division of honors between Premier and Reo ranks.

A year ago forty-six cars started out to strive for the trophy, and although this year's number shows a reduction of nineteen it is agreed on all hands that interest this year will be more than double that in the event of a year ago.

As heretofore, the struggle for the Hower Trophy will be an individual affair, this trophy going to the car having the highest merit marks at the completion. The trophy will be contested for by fourteen runabouts as against thirteen in 1907; of these fourteen two are Pierce Arrows, three Stoddard-Daytons, three Overlands and one each of Franklin, Premier, Gearless, Moline, Reo and Blomstrom.

In addition to this grand total of forty-one in the Glidden-Hower phase of the contest are five entrants that are contesting solely for Glidden certificates, the main reason for these competing under this classification being the impossibility of their getting in a club team. This list includes two Stevens-Duryeas, two Oaklands and a Rainier, the last to be driven by Mrs. Cuneo, who has piloted cars successfully during the previous Glidden tours.

In addition are three non-contesting cars, consisting of a Studebaker *Motor Age* Press car, a Packard Press car and an Oldsmobile entered by C. H. Foster and designated the Gabriel Horn car. Added to these are four official cars, No. 99, Chairman Hower's Pierce Arrow; No. 98, Dai H. Lewis' Premier pilot; No. 97, Mortimer Reeves' Reo as assistant pilot, and No. 96, the Packard Red Cross, under the official direction of Dr. Hoag.

Recapitulating, we have the analysis and relative strength of the 1908 and 1907 Gliddens as follows:

	1907	1908
Glidden Trophy	46	27
Hower Trophy	13	14
Glidden certificates	4	5
Non-contestants	6	3
Officials	5	4
Total	74	53

The entry fees for 1907 at $100 a car aggregated $7,650 and for 1908 at $200 a machine $9,800.

Carrying Out the Preliminary Inspection.

In one regard the change of heart evidenced on all sides by the management in respect to the carefulness of the tour is well exemplified by the inspection of all cars and extra parts carried by them all on Wednesday morning, July 8, at 9 A.M. At this hour all of the contesting cars must present themselves at the official parking place, 757 Main street, where they will be taken over by the Ferguson-Reeves combination. After a cursory examination to insure that nothing but stock models are competing, the program will pass on to the checking-in of the regular spare parts, such as valves, valve springs and other extras regularly supplied by manufacturers at listed prices. The committee has ready heavy canvas bags similar to those employed for carrying mail, in which these parts will be placed and sealed therein by wire with lead seals, an inventory of the parts therein being retained by the committee. In another canvas bag of more than double the size, but of the same design, will be put in all the extra spare parts that the contestants take along, by extra spare parts being meant those not regularly supplied with the car at the list price. An inventory of these parts will be taken and kept by the committee, so that a check-up system can be used periodically with the contents of the different bags. In case contestants carry extra large parts, like springs or steering knuckle tie rods, which cannot be carried in the extra spare part bag, a suitable sealing of these in the car will be accomplished. Tools will be left free, to be carried in their regular boxes, and any use whatever may be made of them on the road without penalty, providing the car maintains its time schedule; the penalization system deals only with the use of new parts which are carried in the regular or extra bags, and the penalty for the use of either is at the rate of one point per dollar, the parts being listed at their regular factory prices. This rule is the same as a year ago, but will work out much better to the different clubs because all of the teams are constituted of three cars, so that the penalty credit to each of the nine clubs will be the same for the same breakage, providing the price of replacement is the same. Last year, owing to the different numbers and the teams, one team of ten cars received but one-tenth point, whereas a similar breakage in another team of three gave the team a penalty of a third point. Any contestant that has to make use of spare parts not carried from the start of the tour and inventoried officially, will be disqualified.

Aspect of the Observer Situation.

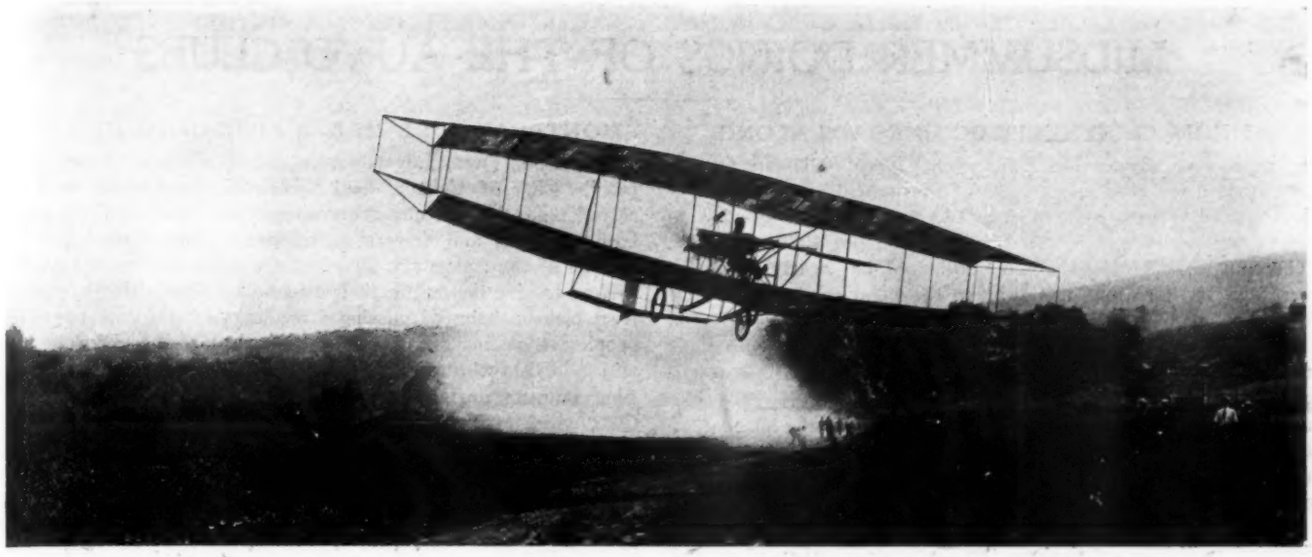
Before the completion of the tour the observer proposition will prove the crux of the situation, because on the impartial selection of the winning clubs depends the veracity and faithful performance of duty of these arbiters of the situation. In order that these twenty-seven observers for the Glidden and fourteen for the Hower may start as well fitted as possible for their duties special cards have been issued, on which they will record their daily reports

Scenic Part of the Route Is Very Picturesque.

To Pathfinder and Chief Pilot Dai H. Lewis belongs the honor of the detail selection of the scenic route which the Glidden tourists for this year will follow. While it is essentially an Eastern tour, starting from Buffalo and circling through the New England States to Saratoga Springs, a total distance of 1,669.7 miles, it offers as varied road conditions, as exceptional scenic conditions and as good all-around touring conditions as would be possible to find. During the twelve days of the trip no less than six of the Eastern mountain ranges are traversed; on the third day, on the Pittsburg-Bedford leg of the trip, the Alleghenies are crossed; in the Milford-Albany run, on July 16, the Catskills are encountered; the run from Albany to Boston passes through the Berkshire Hills; two days of the run, namely, Poland Springs to Rangeley and Rangeley to Bethlehem, the White Mountains are traversed, and during the last day's jaunt the Green Mountains are encountered and the wind up made at Saratoga Springs on the foothills of the Adirondacks. A conservative estimate places the mountain and hill touring at 40 per cent. of the trip. There are few of the long, level runs that featured last year's run from Cleveland all the way to Canton and from Baltimore to New York. The first day's run, Buffalo to Cambridge Springs, is over the old St. Louis tour route to Erie, which is a rolling ninety-six miles jaunt, but from Erie to Cambridge Springs is hilly work. The second day's run, from Cambridge Springs to Pittsburg, is hilly, with a little mountain work approaching the Iron City. The third day's run, from Pittsburg to Bedford Springs, is the hardest one of the tour and is not over the same route followed between these places by the Gliddenites a year ago. The route lies further north and leads through more picturesque mountain country and offers extreme touring conditions. The Bedford-Harrisburg run is an easy one, as is the Harrisburg-Philadelphia stage. From Philadelphia to Milford is the most level stage.

Ten Teams Instead of Nine Will Contest.

BUFFALO, July 8.—Thirty cars are now contesting for the Glidden trophy, making 10 teams of three each, the tenth team being made up this morning and consisting of two Oakland cars and Mrs. Cuneo's Rainier, the three going under the color of the Chicago Motor Club, making the second team for this club. This changes the Glidden status in that there remain but two cars running for Glidden certificates, namely, the Stevens-Duryeas. Three extra non-contesting cars have been taken on, making in all 56 cars that will leave Buffalo at 10 o'clock to-day on the first day's run to Cambridge Springs. The three added machines are a second Studebaker press car, a Diamond tired machine, entered by N. E. Oliver, and a Goodrich tired car, entered by W. O. Rutherford. The registration of the 56 cars is Glidden trophy 30, Glidden certificates 2, Hower trophy 14, non-contestants 6, official cars 4, total 56.



"June Bug," with Aviator Curtiss, Winning "The Scientific American" Prize at Hammondsport, N. Y.

"JUNE BUG" MAKES RECORD FLIGHT CAPTURING $2,500 PRIZE

HAMMONDSPORT, N. Y., July 4.—Persistent effort on the part of the Aerial Experiment Association, headed by Alexander Graham Bell, has finally succeeded in landing the *Scientific American* prize of $2,500 for a straightaway flight of a kilometer. This was accomplished by the *June Bug* this evening, the third machine to be built and tried out by the association. The aviator was G. H. Curtiss, who made more than a mile straightaway, then turning and landing easily, the whole flight taking 1:42 1-2. The flight was made under the auspices of the Aero Club of America.

The *Red Wing* was the first machine to be built, under the supervision of Lieutenant Selfridge. On March 12, 1908, it made its first trial, with F. W. Baldwin as aviator. Starting from the ice after a short run, it covered nearly 319 feet. Instead of repairing the *Red Wing*, the association started to build the *White Wing*, under the supervision of F. W. Baldwin.

On May 22, G. H. Curtiss accomplished 1,017 feet in nineteen seconds, the longest public flight up to the time that had ever been made in America. On May 23, J. A. D. McCurdy essayed to make the flight, and he accomplished 600 feet. The landing proved disastrous. Shortly after the *June Bug* was built, all three being alike.

On June 21 the first flights were made, the first of 456 feet at 28 miles an hour, the second at 411 feet at 31 1-2 miles an hour, and the third at 1,266 feet in 25 seconds, or at the rate of 34 miles an hour. The next flight was of 2,175 feet, taking 41 seconds, 36 miles an hour. On the same day Mr. Curtiss accomplished the record flight of 3,420 feet in 60 seconds.

BALLOON RACE PROVES EXCITING AND MAKES NEW RECORD

CHICAGO, July 5.—By landing at West Sheffield, Quebec, about 60 miles east of Montreal, the *Fielding-San Antonio*, after a 24-hour flight of 895 miles, proved to be the winner of the balloon race held by the Chicago Aeronautic Club. Of the nine big globes that started from the Windy City yesterday afternoon, the one to make the closest approach to Dr. Fielding's flight was the *Illinois*, which landed at Picton, Ont., with 545 miles to its credit, while the *Chicago*, C. A. Coey's monster gas bag, which is larger by one-third than anything ever seen in this country, got as far as Atwood, Ont., covering 522 miles. Dr. Fielding claims to have exceeded the *Pommern's* flight of 876 miles.

Judging from the string of mishaps that befell the competitors, proximity to a large body of water is not a favorable element in the characteristics of a starting place for a balloon race, so that Chicago proved not to be well situated in this respect. The cold air from Lake Michigan proved detrimental to the hopes of the majority of the contestants by greatly contracting the contents of the huge bags and came near ending fatally for two of them, the occupants of the *Ville de Dieppe*, the French entrant. Col. A. E. Mueller was its pilot, assisted by George Schoenck, a fifteen-year-old boy. It was said that the balloon was in no condition to undertake such a test, but its pilot determined to start anyway. The wind carried it over the lake, and the drop in temperature caused it to fall to the surface, compelling the aeronauts to sacrifice everything in the basket, but despite this the balloon continued to drag along the water and threatened to be forced under by the wind at any moment. After having skimmed along in this manner for about ten miles, a warm current of air was struck and the balloon immediately shot up several thousand feet. Without instruments, food or clothing, Mueller came to the ground near Benton Harbor, Mich.

The cold air also came near dropping the *Illinois* into the lake, and so much ballast had to be sacrificed that its chances were spoiled, while the *American*, which made 402 miles to Carsonville, Ont., also suffered from lack of ballast, and had to sacrifice gas. The *King Edward*, Canada's representative, also took to the water once or twice, and had scarcely anything portable left after crossing Lake Michigan, while the *Cincinnati's* occupants descended to assist the *Ville de Dieppe*. The competitors finished as follows:

Balloon.	Place of Descent.	Distance. Miles.	Time. H.M.
Fielding-San Antonio,	West Sheffield, Quebec	895	23 15
Illinois,	Picton, Ontario	545	16 34
Chicago,	Atwood, Ontario	522	14 48
American,	Carsonville, Mich.	402	13 40
United States,	Pinkerton Station, Ontario	388	11 42
Cincinnati,	Covert, Mich	350	9 33
King Edward,	Port Huron, Mich	335	8 03
Columbia,	Clinton, Ontario	276	8 26
Ville de Dieppe,	Lake Michigan	65	6 02

MIDSUMMER DOINGS OF THE AUTO CLUBS

MEDIA CLUB HELPS GOOD ROADS ALONG.

MEDIA, PA., July 6.—The Automobile Club of Delaware County has advised the road supervisors of Springfield township that it is prepared to turn over to them the sum of $1,000 as soon as operations are begun in the repair of the old Baltimore pike. The club, although less than 20 months old, has nearly 200 members and its donations this year to the good roads cause total nearly $1,200.

The club has sent text-books on the construction and maintenance of roads to every commissioner, supervisor and borough council in the county. In a letter accompanying these text-books attention is called to the regulation forbidding the placing of loose stones in the road for traffic to grind down, and that failure to use a binder and to roll render supervisors liable to prosecution, something not commonly known heretofore.

The club is preparing to combat the speeding practice. Warning signs will be erected along the Chester and other pikes, and in a circular letter to members anent this subject, President Weeks, among other things, says:

We have agreed to break up speeding in the boroughs. In some places we are to furnish signs, others are satisfied with our guarantee that we can stop it by this method: First, a warning letter to all our members; second, that we establish our own traps on an 18-mile basis and send our officers from place to place and prosecute every man—member or not—who exceeds 18 miles in the towns. By this plan we can maintain a rational, sane use of the roads through boroughs; otherwise they will hold us to the 10-mile limit.

BOSTON CLUB'S ANNUAL OUTING ABANDONED.

BOSTON, July 6.—The annual outing of the Bay State Automobile Association, which was scheduled to have been held on the 4th and 6th, at Newcastle, N. H., was abandoned owing to lack of interest. The touring committee was late in getting its plans made for the trip and consequently many members had already made arrangements for private trips over the holiday and Sunday. Furthermore several members are leaving to-morrow for Buffalo.

The touring committee does not propose to be caught the same way in its fall event and announcement has just been made that in September the association will conduct a club run and twenty-four hours endurance contest from Boston to the White mountains and return. The committeemen have a plan under consideration which they believe will interest private owners, dealers and manufacturers.

About the middle of the month the association will move into its new quarters in the Carleton Hotel on Boylston street. It will there welcome the Glidden tourists who are to spend Saturday and Sunday, July 17 and 18, in Boston. Extensive plans are being made for the entertainment of the visitors. They include a trip to Nantasket by harbor boat on Saturday, a dinner Saturday night, another harbor trip Sunday and an outing to Lexington, Concord and other points of interest.

COLUMBUS CLUB GIVES ORPHANS A TREAT.

COLUMBUS, O., July 2.—The Automobile Club of Columbus gave the orphans of the city an outing at the East End Country Club on June 26. Through the courtesy of practically all owners of machines here they were enabled to give a full day's enjoyment to about 1,500 little ones. The committee in charge of the outing was made up of Roy D. Williams, Dr. O. H. Sellenings, Dr. George P. Stephenson and several other members who served as directors of the entertainment features.

The Automobile Club of Columbus was reorganized in April and since then a consistent effort has resulted in the establishment of the club on a firm basis and at this time the membership is strong and growing. Club runs are given at intervals and so far they have proved successful in all respects.

MONTREAL CLUB MAKES APPEAL TO DRIVERS.

MONTREAL, QUE., July 6.—At a recent meeting of the Automobile Club of Canada, held this week, complaints were received regarding the non-observance of the rules of the road by both motorists and drivers of vehicles. After a thorough discussion of the matter the directors decided to make an appeal to drivers to give the matter their attention. Many drivers in Montreal make a habit of passing street cars on the side on which people are getting out. The directors deplore the action of certain motorists who offended in this manner in going to and from Blue Bonnets during the recent meet of the Montreal Jockey Club, which attracted a very large crowd.

A suggestion that permission be applied for to use automobiles on Mount Royal was then discussed but was not adopted. It was decided to place route signs and cautions on the road between Montreal and Rouse's Point. This will be a great benefit to those who frequently run from Montreal to New York. Part of the road between New York and Rouse's Point has already been placarded for the tourist's information.

It was also decided at the meeting that the club should take the initiative in abating the dust nuisance on the Longue Point Road. A new composition of oil to lay the dust will be used. The members of the automobile club hope that in the near future they may be able to interest the Turnpike company in the matter, but until then the club will bear the expense.

HARTFORD CLUB ADOPTS OFFICIAL EMBLEM.

HARTFORD, CONN., July 6.—The Automobile Club of Hartford has adopted a club emblem which is to be carried on the radiator spout. It is, in fact, the club button enlarged. The design is that of a spoked wheel and tire. The words "Automobile Club of Hartford, Hartford, Conn.," are in a circle on the tire. The background is brass with blue enamel. The emblem can be readily detached if desired and applied to the dash. After much discussion it was thought best for the sake of individuality to adopt something that could be carried on top of the cooler spout and yet be ornamental.

The club is erecting durable road signs for the convenience of tourists covering all roads out of the city, up to a distance of 25 miles. They contain information concerning distances, curves, grade crossings, and bad roads. The signs are made from heavy gauge strip steel, exhibiting an arrow. Distance is indicated by the point—the name of the town is on the shaft and the club's address on the tail. Other information is shown on the body of the board. The color scheme is blue and old gold, the recently adopted colors of the Hartford Automobile Club. The signs are being erected on wooden posts.

QUAKERS TO ENTERTAIN A. A. A. TOURISTS.

PHILADELPHIA, July 6.—The Quaker City Motor Club is making elaborate preparations for the entertainment of the Glidden tourists who are due here on the 14th. The club has secured permission to use the city hall plaza as a parking place for the tourists' cars during their overnight stay here and a strong guard of police will see that they are not molested during that time. The stag smoker to be held in the ballroom of the Hotel Walton promises an entertainment for the tourists of more than ordinary excellence.

The club has posted a notice warning members and others that Stenton avenue, between Germantown and Chestnut Hill is being patrolled by time squads. This broad level highway is on the direct route between Philadelphia, Reading and Harrisburg, and proves a dire temptation to the speed-inclined. A number of arrests have been made and so the warning advises, "go slow and toot."

LOCOMOTIVE CO.'S CONTRACT TERMINATED.

PROVIDENCE, R. I., July 6.—On July 1, the three-year agreement of the American Locomotive Automobile Company with the builders of the Berliet, at Lyons, expired by limitation, and the Providence makers will henceforth discontinue the use of the word Berliet altogether. In this connection an important announcement is made to the effect that the separate existence of the American Locomotive Automobile Company has also come to an end and that it is now part of the parent company, the American Locomotive Company. Concerning these changes, Vice-President Ball, of the latter said: "The American Locomotive Company, having acquired all of the stock of the American Locomotive Automobile Company, has, for corporate reasons, absorbed that subsidiary company with several others which have heretofore led separate existences. The policy, therefore, is not one affecting the automobile company solely. The automobile business will be continued at the works at Providence, in the garage at 1886 Broadway, New York, and in the agencies in the various cities in the country on a larger scale than ever. Besides continuing to make, under the Locomotive name, its line of touring cars, the company has in prospect a business of considerable proportions in the production of cabs and trucks. There will be no radical change of design in the cars with the dropping of the name Berliet, but it will be possible to make certain modifications of the French design that are desirable for American use. The personnel of the organization of the automobile department will remain unchanged, James Joyce, assisted by R. B. Van Dyke, having charge of the New York offices; Charles E. Davis continuing as superintendent of the factory, and B. D. Gray as designer and chief engineer of the company.

FORD TO BUILD MAMMOTH FACTORY.

DETROIT, July 6.—As a fitting commemoration of its fifth anniversary, as it was organized June 16, 1903, comes the announcement by the Ford Company that it will immediately begin the work of erecting what will easily be the largest automobile plant in this country, if not in the world. The main building will be 865 feet long by 75 feet wide, four stories high—the largest building under one roof in the State of Michigan. It will be built throughout with reinforced concrete, glass and steel—fireproof in every particular.

The total floor space of this building is 258,000 square feet—a mile of floor fifty feet wide—six acres of floor space in the one building. It will contain 13,400,000 cubic feet of space. The glass in the windows totals 52,453 square feet—enough to make a strip one foot wide ten miles long. For heating the building, 58,000 feet—eleven miles—of pipe are required. The Ford Motor Company owns sixty acres of land and the complete plans contemplate utilizing the entire tract for the new plant. It is the old Highland Park race track property, and includes a mile track, which will be used for testing. When finished—and the work is to be rushed through—every part of the Ford cars will be manufactured there, from bolts to cushions, giving employment to 5,000 men, and an output of 500 complete automobiles per day. Alfred Kahn, well known as the architect of the Packard, the Thomas Buffalo and Detroit, the Garford and the Pierce plants, has been selected for the new Ford factory, and it goes without saying that in the arrangement of its facilities for the rapid manufacture of parts and the assembly of cars, the new plant will be a model of its kind.

AKRON GETS AUTO FIRE FIGHTING MACHINES.

AKRON, O., July 6.—After a trip to New York, Rochester, N. Y., Boston, Fall River and Springfield, Mass., Fire Chief John T. Mertz and the members of the board of safety, E. C. Housel and C. C. Benner, decided that self-propelled fire apparatus should be used in this city as soon as it could be introduced without throwing out present satisfactory apparatus. As a result announcement was made that bids would be received July 1 for three auto combination hose trucks. Mr. Housel stated that in time autos will take the place of horses in all of the fire companies of the city—seven stations in all. "The hills of the city will constitute no hindrance," he stated, basing his decision on what he had seen in Eastern cities.

The specifications for the new auto trucks provide that they be of 40 horsepower and have a speed of 25 miles an hour on the level and 15 miles up a ten per cent. grade. Each machine is to have four cylinders, air-cooled, gasoline power and vertical pipes. The wagons will carry one 40-gallon chemical copper tank across the front of the hose body, 250 feet of chemical hose and a capacity for 1,000 feet of 2 1-2-inch cotton fore hose. One of the wagons will carry a 20-foot extension ladder and the other two 20-foot extension ladders. They will also be fully equipped with axes and other similar apparatus, so that there will be nothing lacking for the business of fire-fighting when the power-driven machines reach the scene of action.

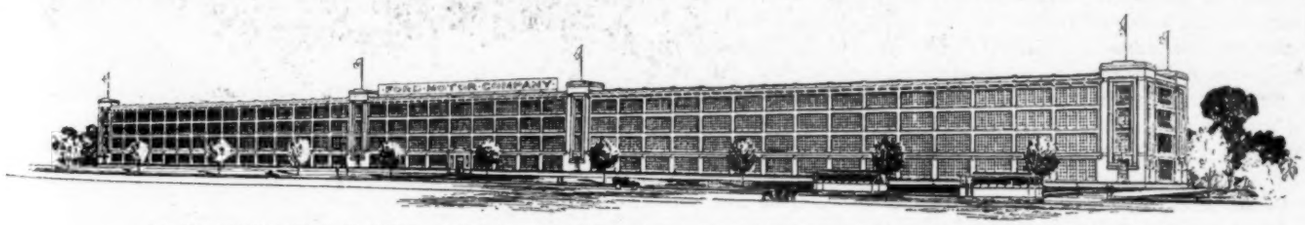
Akron claims to be the first city in the entire country to have an automobile police patrol and expects to be among the pioneers in installing "horseless" fire apparatus.

MAXWELLS NOT TO ENTER A. A. A. TOUR.

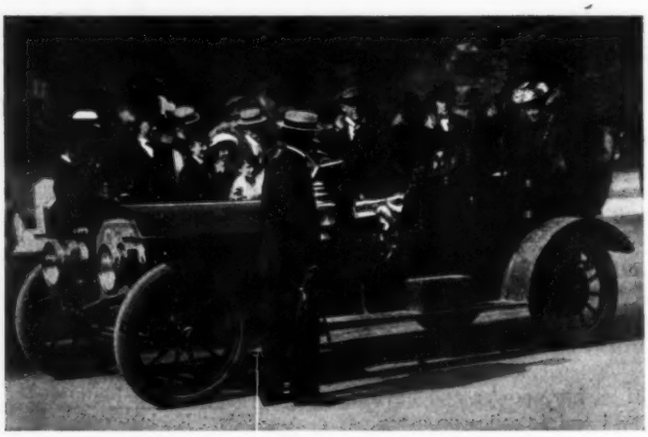
This year's A. A. A. tour will perhaps be the first one in which the Maxwell-Briscoe Motor Company will not take part. "From its inception we have been enthusiastic supporters of the Glidden tour," said Benjamin Briscoe, "not from any altruistic motive, but because the tour gave us a chance to demonstrate the efficiency of a moderate-powered and moderate-priced car as compared to the performance of the high-powered and more costly vehicle. And, as a rule, when it came to counting the heads of successful competitors in Glidden tours, Maxwell cars have been found well in the front rank. But the decision of the touring committees to place a handicap upon the lower-priced cars may be well enough for some, but is all wrong for Maxwells. It is just possible that we shall have a sort of Glidden tour of our own, with enough extra strenuosity thrown in to prove that Maxwell cars, in spite of their low price, or perhaps because of it, require no handicap."

SETTLING THE OLD AEROCAR TANGLE.

DETROIT, July 6.—Creditors of the defunct Aerocar Company, against which bankruptcy proceedings were recently instituted, are proceeding against A. Y. Malcomson, ex-president of the concern, for a settlement. He held $204,000 worth of the stock of the company and has filed a claim against it for money advanced amounting to $92,000. The liabilities of the company total $300,000 and the sale of its plant only brought $100,000, so that if Malcomson's claim is allowed, there will be practically nothing for the creditors. Action has accordingly been begun to compel him to pay the difference between the face value of the stock he holds and what he actually paid for it.



Design of the Main Building of the New Factory of the Ford Motor Company, to Be Erected at Detroit.



The Premier Takes Some Real Bears Auto Riding.

SOME UNUSUAL PASSENGERS IN A PREMIER.

It is not often that bears are treated to a ride in an automobile, even though they do happen to be of the trained variety, but this was the case of a Premier "45" car recently, as is strikingly shown by the accompanying photograph. And their bearships seem to be enjoying the situation quite as much as their trainer and the spectators which the unusual sight has attracted to the scene. Fortunately they were well-trained bears and acted like perfect ladies—or gentlemen—should under similar circumstances. Her bearship in the front seat did not attempt to hug the driver, nor did her partner in the tonneau take any like liberty.

BOSTON GETS THOMAS TAXICAB SERVICE.

BOSTON, July 6.—Fifty of the new Thomas taxicabs have been received by the Taxi Motor Company, which has its headquarters in the Motor Mart Building, with numerous substations round the city, and W. P. Barnhart, the company's manager is now giving the Boston public the cheap taxicab service that other cities have been enjoying for some time past. The rates are 30 cents for the first half mile and 10 cents for each half mile thereafter, or an equivalent charge of 10 cents for each six minutes waiting. The cabs are the product of the E. R. Thomas Company, Buffalo, and are equipped with French taximeters. It is the intention of the Taxi Motor Company to increase the number of cabs in service to 150 should conditions warrant it.

GOVERNMENT LOSES TIRE IMPORT CASE.

WASHINGTON, D. C., July 6.—The government has again appealed in cases of the Auto Import Company, Archer & Company, and Massenat Deroche against the United States, recently decided adversely to the government.

The plaintiffs imported automobiles with tires accompanying that had not been attached in a way to render them capable of immediate use—being interchangeable and might or might not be used on machines with which imported.

The court held that the tires and machines did not together constitute an entirety, but were dutiable as though imported independently.

The court further held that in order that merchandise that is distinctively a manufacture of one material, as a rubber automobile tire, shall be classified as a manufacture of another material, as an automobile in chief value of metal, it is necessary that the entire article manufactured should have existed as an assembled entity, so that it would be an invasion for the foreign maker to break the entity into fragments and expect each fragment to be treated as if complete in itself. But where an article has never been assembled abroad, it ought not for tariff purposes to be treated as if it had been so assembled.

POPE COMPANY'S CREDITORS GET DIVIDEND

HARTFORD, CONN., July 6.—The receivers of the Pope Manufacturing Company will pay 25 per cent. on approved claims, made conditional upon the receiver's receipt of $50,000 for American Wood Block stock, an asset of the Pope Company, and now in hand. The receivers must deposit $65,000 with the Court of Chancery, subject to further order of the court for future partial payment of claims of the lessors of the Chicago property occupied by the Pope Company.

The court further placed the International Trust Company, of Boston, on the same footing with the other creditors. This bank held on deposit certain funds of the Pope Company. It also had outstanding notes against the company. The court refused to sanction the action of the bank in applying the funds on the notes and the receivers will deduct from the trust company's dividend the amount on deposit at time of commencement of the receivership several months ago.

The Pope Company has $400,000 on deposit in Newark. The estimated indebtedness is $1,600,000, and so the $400,000 will just pay the 25 per cent. referred to above. More will be paid late, and it is probable that the company will emerge from its difficulties within the next year or so.

Automobile Engineers Visit Cadillac Plant at the Invitation of H. M. Leland.

Although not originally down on the program of the Third Annual Summer meeting of the Society of Automobile Engineers, held in Detroit the last week in June, one of the most interesting events of the three-day session was the visit to the plant of the Cadillac Motor Car Company, at the urgent invitation of Manager H. M. Leland, who is shown in the accompanying photograph seated with President Fay of the Society in one of the Cadillac cars provided for transportation. This is a runabout and is at the left-hand end of the line. Mr. Leland provided guides for each group of five from the technical staff of the Cadillac plant, so that its entire workings, as well as the details of the foundry situated in another part of Detroit, were thoroughly shown in the course of a few hours.

BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

To meet the increased demand for finished valve stems and similar work, the Electric Welding Products Company, Cleveland, O., has just installed a grinding department, the equipment consisting of Brown & Sharpe and imported machine grinding tools.

Confidence in the ability of the Truffault-Hartford shock absorbers to save springs is shown by American designers of racing cars, as both the American entries for this classic—the Acme Sextuplet and the Chadwick Great Six stock car will include them in their equipment.

General Manager H. E. Walton, of the Midland Motor Car Company, of Moline, Ill., was in New York the greater part of last week, making a stop in the metropolis in the course of a round of the Midland agencies in the East, including Philadelphia, Boston and other important centers.

To uphold the claims of their basic patents, Spare Motor Wheel of America, Ltd., have filed suit against the Burrowes Screen Company, of Portland, Me., in the United District Court. The spare wheel is coming into extended use in this country and the pioneer firm in this line intends to protect its rights.

The American Motor Car Manufacturers' Association has been advised by Consul W. Maxwell Green, of Hamilton, Bermuda, that the act prohibiting the use of all motor cars in the colony of Bermuda, and to be in force indefinitely, passed both houses of the legislature, and has received the signature of the governor.

The Rambler claims for increased efficiency through the offset crankshaft and straight line drive seem to be substantiated by the twelfth consecutive Rambler hill-climbing victory at Pocono Summit recently, in which a Rambler driven by W. H. Pierce won the event for stock cars of 15.1 to 24 horsepower in 1:16 3-5.

McClay & Black of Los Angeles, a concern that does a large rental business, have kept an interesting record of tire costs and their experience shows that they have been able to average 7,000 miles for every one of the Diamond tires used, despite the fact that they are all on seven-passenger cars and are not given the best of consideration by any means.

A team of three Studebaker Model H, 30-horsepower cars has been entered for the A. A. A. tour through the Rochester Automobile Club. This will be the premier appearance of the Studebaker in the Glidden tour. They will be in charge of Frank Yerger, manager of the Studebaker Philadelphia branch. In addition, another Studebaker will do duty as a press car.

The remarkable performance of the Diamond tire equipment of the Studebaker train of five cars which carried delegates from Chicago to Denver for the Democratic convention is a matter that is arousing no little comment. Every one of the original Diamonds that started on the long run to Denver arrived intact at the latter city, the only delays consisting of four punctures.

As a preliminary try-out the red, white and blue Peerless team of cars entered for the A. A. A. Reliability tour, made the run from Cleveland to Bedford Springs and back last week. The cars will be in charge of Charles H. Burman, who will drive the first with Charles Roth as mechanic; W. C. Straub will pilot the second with Robert Achoff to assist him, while the third will have H. D. Savage at the wheel and J. B. Broch beside him.

The engine of the Acme Vanderbilt racer is now about ready to set up and place on the testing blocks. While work on the engine has been going forward under the direction of Designer Hardy, the frame and running gear is being put together. It is now stated that the car will be on the roads and under stringent road tests by August 1. The question of a driver has not yet been settled, although it is probable that the Acme will be in charge of Jere Price.

At the New York *Globe's* outing held June 28, the Franklin taxicab, loaned by Manager W. S. Jewell and which has just made its appearance in the metropolis, was put to the test. On account of the shortage of cars to transport the 100 employees, it was forced to do double duty, carrying a load of nine. This was done without inconvenience, the run to and from Elmwood, L. I., being made on schedule time. A Franklin truck was also pressed into service, being converted into a modern sightseeing vehicle.

Following their recent successful reliability run, the Indianapolis Automobile Trade Association is planning a similar two-day event. This run will include French Lick, and will be held some time early in the fall. Practically the same rules that governed the one-day run on May 20 will apply to the proposed run. On the latter, 19 out of the 37 cars that started finished with a perfect score. In the two-day run there will probably be a class for trucks, as a 12-passenger Rapid Pullman made the previous run with a perfect score.

Many autoists would be glad to invest in larger tires for their light cars, were it not necessary to also purchase larger wheels. Morgan & Wright have met this demand by bringing out a 31 by 4-inch Universal Dunlop, which fits a 30 by 3 1-2-inch Midgley rim, and a 33 by 4-inch Dunlop tire to fit a 32 by 3 1-2-inch Midgley rim. They are especially recommended for use on the rear wheels. The 40 by 4-inch regular clincher type of M & W make which is being turned out for a few special cars is said to be the largest pneumatic tire made in this country.

While S. Greenwald, of the Greenwald Rubber Company, Buffalo, N. Y., was compounding some rubber in the laboratory of the firm's plant recently, an alcohol lamp exploded and the fire spreading, the offices and factory were completely burned out. Mr. Greenwald was burnt, but not seriously. Considerable loss to the plant was sustained owing to the fact that it was not covered by insurance. The work of rebuilding and remodeling on a larger scale in order to double the company's former output is already under way and deliveries will be made within little more than a week after the fire.

Dr. A. H. Heaton, president of the Sedalia (Mo.) Automobile Club, who started out to show that an automobile tour of Europe could be made in a Ford runabout for $4.68 per day, finds by the expense account of his first week's running that this figure was too high, as the expense per day for the first seven days averages but $3.08, including the cost of an extra inner tube, which added $4.40 to the account. Dr. Heaton speaks enthusiastically of the manner in which the little Ford performs, and adds that the above figures, including putting up at the best hotels, such as the Hotel Beausejour, Lyons, the Grand Hotel Monte Carlo, etc. The biggest item on the week's bill was "hotel, tips and laundry, $25.45," and the next was "gasoline, $12.47."

A prediction made by an officer of the Diamond Rubber Company last December, was that even though the automobile business in general for 1908 might be much smaller than in 1907, the accessory manufacturers would have an active year. Time has more than confirmed this prediction, and it is interesting to note how correct the forecast has been in regard to the business of the Diamond tire people. Since March, the Diamond factories have been working to their fullest capacity, and the daily tire production was never so large as it has been during the past three months. A notable feature of the demand is the increase in the call for the quick detachable type, which has thus far prevented the Diamond Company from moving the Marsh rim factory from Columbus, O., to Akron, as will ultimately be done.

"We have received so many letters bearing on the subject of price-cutting that we find it necessary to issue this general statement prior to giving each letter individual attention," says the Goodyear Tire Company, Akron, O. "The meeting held by tire manufacturers May 21 resulted in the perfection of an organization and the presentation of plans for remedying the price-cutting evil, which will require some time and further meetings to thresh out. Pending concerted action on the part of the tire manufacturers, we have worked out a little plan of our own which will enable those selling Goodyear tires to meet the present conditions and make a profit on all sales. The greatest obstacle to profit-making at the present time seems to be the action of price-cutting jobbers in quoting consumers the same prices that most dealers are compelled to pay." In connection with the foregoing statement, the Goodyear company is requesting the cooperation of the dealers in preventing price-cutting.

John Willys, president of the Overland Automobile Company, Indianapolis, Ind., was the host at an informal luncheon given at the Marion club in that city recently. It was one of those delightful affairs that keep every man guessing as to just why he happened to be there, and the fourteen who sat down were kept in a state of mental suspense on this point until the postprandial ones got busy. C. G. McCutcheon of the American Distributing Company did his best to figure it out according to the integral calculus, while P. D. Lewis, of the Lewis Spring & Axle Company, tried the infinitesimal interim, but neither succeeded in figuring why $x = lunch$. There were several other "little parts" men who are in the habit of selling coils, radiators, axles and the like, but none of them divined Johnny's "motive." It remained for Frank Barnett of THE AUTOMOBILE and *Motor Age* to discover that Johnny was in a quandary himself, his problem being, "Why do parts men stand hotel lunches to customers?" On figuring the number of lunches he had eaten but not paid for, since making contracts for 1909 Overland parts, he was staggered

at the total, and on dividing it by 2,000—the number of Overlands he expects to turn out, he discovered that it amounted to $0.0183 per car. In future, he will buy his own lunches and feed the parts men besides.

H. S. Firestone, president of the Firestone Tire and Rubber Company, Akron, O., when asked the reason for the remarkable growth of this company during its career of eight years, said: "I attribute our success to our early recognition of the value of the highest quality of materials in rubber tires. At the start we adopted the policy of making tires only of the highest grade, and never have we even been tempted to decrease the quality by the use of cheaper material. An additional reason is the concentration of our efforts towards the betterment of rubber tires in general and Firestone tires in particular. We have worked longer on one idea that would improve tires generally than some manufacturers would spend to improve their own individual product only. In the present large factory are installed only the latest and most modern machines for the manufacture of rubber tires. Every convenience and improvement for the making of perfect tires is there. The attention of the company was first directed to the manufacture of solid tires for automobile trucks, and they were among the first firms to manufacture successful tires for vehicles of this class. The remarkable success achieved in the manufacture of solid tires was so gratifying that they decided to enter the pneumatic field.

NEW AGENCIES ESTABLISHED.

Sidney A. Bean, general sales agent for the Autocoil Company, announces the opening of the Detroit office at 730 Woodward avenue, where W. S. Austin will be in charge. Mr. Austin has been connected with the engineering department of the Autocoil Company for a number of years.

Levy & Fanning, Chicago, have just closed negotiations to handle the Chalmers-New-Detroit $1,500 car, which has been creating such a sensation, as well as the Chalmers-Detroit-Forty, in that territory. A new item in connection with the building of the smaller car is the company's frank statement that the factory cost of the motor is $261.

PERSONAL TRADE MENTION.

A change in the partnership existing between H. A. Rowan, Jr., and William A. Blair, who operated the Aldine Garage, at 2028 Sansom street, Philadelphia, under the firm name of H. A. Rowan, Jr. & Company, was announced last week, when Mr. Blair withdrew from the firm. Mr. Rowan will continue the business alone.

George W. Hipple, who has been a prominent figure in the sales end of the industry for several years past, has given up the Chicago representation of the Chalmers-Detroit Company, and will henceforth act as traveling representative of the latter concern, Levy & Fanning having contracted to handle this firm's output in Chicago.

L. E. Hoffman, southern traveling representative for the H. H. Franklin Manufacturing Company, Syracuse, N. Y., has just returned from a six-months trip, during which he placed agencies in a number of Mexican cities, besides Madeira, Yucatan, and Habana, Cuba. At New Orleans, he found a Model D Franklin awaiting him, in which he made a 17,000-mile trip, covering every Southern State except Tennessee and ending his trip at Philadelphia last week.

NEW TRADE PUBLICATIONS.

Gemmer Manufacturing Company, Detroit, Mich.—Gemmer steering gears for motor vehicles is the raison d'etre of the booklet just sent out by this firm, and it gives considerable information of value to the designer in brief form.

Manhattan Electrical Supply Company, New York.—Buyers of ignition supplies will be interested to know that the Manhattan Electrical Supply Co., 17 Park Place, New York, have just issued a 12-page folder showing the line they manufacture, including spark coils, switches, battery connectors, etc. A thoroughly revised edition of their pocket-size catalog—168 pages—"Something Electrical for Everybody," is also ready for distribution and can be had by mailing a postal to the above address.

Cameron Car Company, Beverly, Mass.—Text is subordinated in this instance to the numerous illustrations of the various models of Cameron cars, of which this company is the builder. Each one is attractively pictured on a separate page, and the corresponding specifications printed below it. Illustrations of the complete chassis, power plant and the special Cameron type of sliding change speed gear are also given, with a brief description, the catalogue being an excellent example of compactness and brevity.

Chase Motor Truck Company, Syracuse, N. Y.—Commercial vehicles equipped with two-cycle gasoline air-cooled motors form the subject of a catalogue just being sent out by this firm, and as is consistent with the nature of the vehicles, their description and illustrations are of the plain, business-like kind. A novelty not often found included in the catalogue of makers of such cars, is a gasoline-driven lawn roller, its power plant consisting of a two-cylinder, two-cycle, air-cooled motor, the change-speed gear being of the planetary type, giving two speeds forward and reverse, while the steering and control are the same as on an automobile.

Borbein Auto Company, St. Louis, Mo.—"Catalogue No. 8, Automobile Parts and Running Gears" is the latest piece of advertising literature received from this concern, and its increased size as compared with its predecessors of former years gives ample indication of the growth of its sponsors during that time. It is a 70-page booklet in a dark red cover and is entirely devoted to auto bodies and running gears, together with parts, all of which are fully illustrated and described. Some of these are axles, sprockets, chains, wheels, forgings for levers, pedals and the like and a number of similar lines, all of which are carried in large variety by this house.

Witherbee Igniter Company, New York City.—The first issue of the latest addition to the numerous house organs bears a striking cover in the shape of an illustration depicting part of a honeycomb with the bees at work, the whole being done in color, while across the top is the title of the new publication, "The Wither-Bee." It goes without saying that it is devoted to Witherbee ignition and ignition specialties, from spark plugs and cable up through Witherbee igniters, or storage batteries, to the new Volta high-tension magneto. This first issue is very attractively printed and illustrated on heavy calendered paper and is not entirely given over to business, as it contains a short story in addition.

Adam Cook's Sons, New York City.—"Albany Grease" has been on the market so long that its name has become a byword among machinery users the country over, so that a little pamphlet with this title and the well-known trade-mark of its makers strikes one as familiar at first sight. In addition to explaining the various uses of Albany grease and the various grades, together with the purposes for which they are specially adapted, the line of special grease cups gotten out by this firm for use with their lubricants is illustrated and described. The different grades of grease to be used on automobiles in summer and winter are also outlined. The work is a little brochure slightly larger than vest-pocket size and is attractively printed and illustrated.

Mayo Radiator Company, New Haven, Conn.—This is a very attractively gotten up booklet in which there is probably less type matter than is usually consumed in the Foreword of the average catalogue, even though it be a very small one, for there are only a few lines of type in this whole work, yet it tells its story very effectively. Its title is "Automobile Radiators," and each page, which is printed on one side only, bears a photographic reproduction of the type of radiator made by this firm for some of the well-known cars, with a few words of description, such as "Type E Locomobile, 1906, 7, 8.," such well-known names as Stevens-Duryea, Pierce Arrow, Premier, Pennsylvania, Stearns, Marion, Simplex, Cleveland and a number of others being shown by these plates.

International Time Recorder Company, Endicott, N. Y.—"Time" is the significant title of a very attractively made up little magazine that is being issued in the interests of this firm. The March number shows it to be one of the most interesting publications of its kind now in existence, as many of the articles are from experienced contributors in the handling of time-recording devices, and they show how systems can be applied to checking the going and coming of any number of employees or piece workers, in any kind of business. One of the articles describes the method of keeping tab on cars in a garage and is entitled "How Garages Check the Chauffeurs." It is full of helpful information for the man who buys labor and is looking for the maximum return.

Pennsylvania Rubber Company, Jeannette, Pa.—"Factory Facts, for Buyers of Automobiles" is the cover title of an attractive little booklet issued by this firm. The "facts" referred to have to do with the manner in which Pennsylvania tires are manufactured and some salient points in the process of making them, as compared with others, are clearly brought out, together with the advantages that accrue from them in increased service and durability. For instance, "Fact One" deals with the vulcanizing of the tires; "Fact Two" shows the special bias woven fabric that is used in the making of Pennsylvania tires and shows its advantages over the usual fabric which has to be cut bias in comparatively short pieces, while "Fact Three" illustrates the special machine used for wrapping as compared with the hand process usually followed.

McKeown Brothers, Chicago.—This is a booklet descriptive of the "Lattis Truss," of which this firm are the patentees and builders. It is a form of construction especially adapted to the building of garages, in which it is very undesirable to have the floor encumbered with posts or pillars, particularly as trusses of the "Lattis Truss" pattern can be built up to 100 feet span of sufficient strength for all roof purposes. The booklet describes in detail the method of constructing the trusses, the materials used, and also gives a list of buildings in which this patented form of construction has been employed, and it is a noteworthy fact that quite a few of the prominent garages in Chicago and neighboring territory are found in it. The booklet is profusely illustrated with photographs of the various buildings in which the "Lattis Truss" has been used.

Keystone Lubricating Company, Philadelphia.—Specially prepared for the campaign this firm is now making in the introduction of Keystone grease in the automobile trade are two attractive folders, one entitled the "History of Lubrication," and the other "Heat Has No Effect on Keystone Grease." In the former is described the transition period of lubrication, in which dissatisfied users of oil were led to adopt the first kind of grease offered, and after having experimented with many, found that all had the faults of oil, or were even worse, owing to the fact that they did not combine the proper qualities of a lubricant. What these qualities are and how they are combined in Keystone grease is also related. In the second pamphlet, the importance of using a pure lubricant is dwelt upon, and the danger of employing animal greases on fine bearings, or for that matter, on any bearings, is made apparent. Both are excellent briefs for Keystone grease.

Stevens-Duryea Company, Chicopee Falls, Mass.—"Stevens-Duryea, 1909, Model X," in light green on a buff cover forms the preliminary word of a new booklet from these Massachusetts builders who are sending it out to introduce Model X, a newcomer to the Stevens-Duryea fold. In the actual foreword to the contents of the booklet, the makers point out the fact that in bringing out this new model improvements have taken the form of refinements rather than departures from principles previously followed, and a review of the specifications of the car shows this to be the case throughout. Model X has been brought out to fill the demand for a four-cylinder car having a little more power than the Stevens-Duryea Model R, which has been discontinued. As a matter of fact, Model X is practically an enlargement and refinement of its predecessor, embodying all those features of Stevens-Duryea design and construction that have become familiar. It is attractively described and illustrated.

INFORMATION FOR AUTO USERS

Auto Rear Ice Trunk.—Now that touring into more and more unknown parts of the country is coming into vogue, it is becoming customary to carry a supply of provisions and drinkables along so that entire dependence need not be placed on the casual wayside inn, that is so often lacking when most needed. To meet this demand, W. W. Winship, 71 Summer street, Boston,

WINSHIP TRUNK FOR COOL LUNCHES.

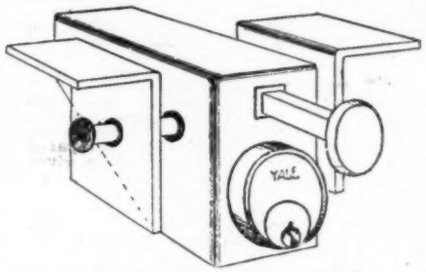
Mass., is placing a wide variety of different kinds of kits for this purpose on the market. One of the handiest is the ice trunk shown by the accompanying illustration. As will be seen, this is arranged with a zinc box for a large piece of ice, and has besides large individual boxes for fruit, meats, sandwiches, glasses. It holds six quart bottles, or nine pint bottles and when necessary, the entire interior fittings can be removed and the trunk used for ordinary purposes.

A New Auto Instrument.—The General Electric Company, Schenectady, N. Y., has lately placed on the market a new automobile instrument for use on electric vehicles. This instrument, known as the type DK, consists of a combination ammeter and

NEW G. E. CO. VOLT-AMMETER.

voltmeter enclosed in a dust and moisture proof aluminum case and is especially designed to withstand without injury the constant vibration and exposure incident to this class of service. The magnets used in DK automobile instrument are made from the best quality of magnet steel obtainable, the special processes of aging and hardening further insuring their permanency. Another important advantage is the fact that they are strictly dead-beat. The scale divisions are very uniform and legible. The standard voltmeter scales are 120 and 80 volts. Either of two ammeter scales is standard, viz., 150-0-150 or 70-0-150. It often becomes necessary to measure the voltage across individual cells and for this purpose a second voltmeter scale reading from 0 to 3 volts will be furnished on request. The severe vibrations to which automobile instruments on commercial vehicles are subjected, prevents the indications being read. To overcome these difficulties, the General Electric Company has designed an "Anti-vibration Support" upon which the type DK instrument may be mounted.

"Break-Circuit Auto-Lock."—There is nothing easier to make way with than an unguarded electric, while the possibilities of losing a gasoline car by theft are now very great as well. To prevent such a misfortune as this, the Safety Device Company, 431 East Tenth street, Indianapolis, Ind., are placing on the market what they term their "Break-Circuit Auto-Lock." Its construction is such that it can be readily in-



FITING OF BREAK-CIRCUIT AUTO LOCK.

stalled on any electric, and it is a very simple matter to attach it. In fact, it may be placed in two or three different locations, according to the particular arrangement of the car under consideration, and in any case, it is inconspicuous and not easily tampered with. Its appearance as installed in one of the numerous different ways which the makers suggest in their detailed instructions is shown by the accompanying line sketch.

Style "B" Prest-O-Lite Tanks.—For use on small runabouts and roadsters, the Prest-O-Lite Company, Indianapolis, Ind., manufacture what they term the Style "B" tank. The latter has a capacity of 40 cubic feet. Many autoists who have invested in these small tanks find out later that the Style A tank with its capacity of 70 cubic feet would have served their purpose better. To all such, the Prest-O-Lite Company is making a special offer. They will refund the full purchase price, supplying one of the larger tanks for the difference in the list, amounting to $15. Although the Style A tank has almost double the capacity of its small brother, there is only a difference of $1 in the cost of recharging. Any of the numerous Prest-O-Lite branches or agencies will make the exchange.

Quick Detachable Terminal.—An entirely new form of quick detachable terminal for use on primary and secondary circuits has recently been put upon the market by the Conn. Telephone & Electric Company of Meriden, Conn. A great deal of trouble has been caused heretofore by the breaking of connections on timers, etc., and if the Connecticut Quick Detachable Terminal possessed no other advantage than the elimination of such annoyance, it would prove its value many times over. The ball and socket construction allows the connector to swivel or turn in any direction. The Connecticut Terminal is made up in two types suitable for use as a primary or secondary connector. The secondary connector is fitted with a rubber collar or sleeve which covers the end of the wire and makes a very neat finish. It is simply necessary to cut the wire off straight, push on the rubber sleeve, pass the wood screw through the hole in the stud and screw it down tight. The primary terminal is connected by cutting off the wire straight, slipping it into the hole in the stud carrying the spring, then placing the screw in position (as indicated in the illustration), screwing it down tight.

QUICK DETACHABLE TERMINAL.

Both the primary and secondary terminals are furnished with an adapter, as shown, unless otherwise specified. These adapters will fit any plug or terminal (not over 3-16-inch in diameter) by removing thumb nut, slipping on adapter; then place thumb nut back on screw. It is being shown by the National Sales Corporation, 296 Broadway, New York.

Hartford Hood Anti-Rattler.—There is nothing quite so annoying about an otherwise well-kept car as to have a persistent rattle, which means nothing in itself, but which sounds as if it portended something serious to the uninitiated ear. Many an otherwise well-designed hood is frequently guilty of this, and to eliminate the annoyance, the Hartford Rubber Works Company, Hartford, Conn., has just placed on the market what they term the Hartford "Hood Anti-Rattler." It consists of a strip of flexible rubber about a foot long by two inches wide and 1-4-inch thick. It is slotted at each end and when placed over the center of the hood, the leather straps are drawn through these ends and then buckled down firmly. The rubber takes up the vibration and deadens the noise.

HARTFORD ANTI-RATTLER IN PLACE.

INDEX TO ADVERTISERS